Hunterian Lectures
ON
SYPHILIS,
AND ON
SOME LOCAL DISEASES AFFECTING PRINCIPALLY THE ORGANS OF GENERATION.

Delivered at the Royal College of Surgeons of England,

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TREATMENT OF SYPHILIS.

SINCE Mr. Pearson and Sir B. Brodie's time another plan of administering mercury has been very extensively adopted here, on the continent, in India, and especially in America. Mr. Langston Parker's most valuable and energetic labours on the subject of mercurial fumigation suggested to me the ideas which I have endeavoured in some measure to work out; and as I find that the plan which I have advocated, although it has now come into very general use, is quite as imperfectly carried out in general practice as the administration of mercury in any other way, I am anxious to give a short but clear account of it. Abernethy long ago used calomel fumigation for the cure of syphilis, and, probably on account of the irritation which it produced when inhaled in excess, he appears to have abandoned its use. When calomel is volatilised, a certain amount of free hydrochloric acid is given off, as may be indicated by placing a piece of moist litmus paper in the fumes. In like manner the bisulphuret of mercury yields sulphurous acid, which is very much more irritating to the lungs. The so-called grey oxide of mercury often contains a proportion of calomel, and itself is liable to be decomposed in sublimation. Sometimes crude mercury is produced, sometimes the binoxide, so that its effects cannot be relied upon. These are the preparations of mercury which have been most extensively used for mercurial fumigation, and of these the calomel is much less liable to decomposition and produces much less irritation than the others. Experimentally, I found that the admixture of a small quantity of the vapour of water in a very great degree prevented the irritating effects of the sublimed calomel; and this is effected, as I suppose, by the admixture of the vapour of the water with the vapour of the hydrochloric acid. The irritating qualities of the vapour of calomel may be still further diminished by its being resublimed two or three times before it is used. In this action, as I conceive, any free hydrochloric acid is driven off. These seem very simple processes, but it is extraordinary the number of experiments that were tried, and the number of years that have elapsed since Abernethy's time, before they were practically applied. They have, however, converted that which was before an uncertain remedy, often attended with considerable inconvenience, into a mode of treatment at once safe and definite in its action, and one which may be regulated with the greatest nicety. Any remedy, as Sir B. Brodie has observed, that is powerful enough to do much good, may also do harm if misapplied; and I am anxious to guard against some of the sources of error which are very common at the present time in the use of the calomel vapour bath.

I would not for a moment have it inferred that I take for granted that the plan which I have advocated for mercurial fumigation will ultimately turn out to be the best possible. It is, however, but fair and reasonable that those who wish to try it should do so according to the plan recommended, before they pronounce an opinion as to its efficacy. In the first place, it is the calomel bath which I have recommended in the treatment of syphilis, and not a vapour bath. The water used is only for the purpose of softening and diluting any irritating vapour that may arise when the calomel is sublimed, and for this purpose half an ounce or an ounce is quite sufficient. I find that it is very common for a considerable quantity of water to be used; as this boils a certain amount of heat necessarily becomes latent, and as the vapour recondenses on the skin this latent heat is again given out. The result is often a profuse perspiration. A double evil results from this—the perspiration washes the calomel off the skin, where it should remain; and it, to a certain extent, debilitates the patient. Now many patients suffering from syphilis are already much reduced with regard to their physical powers, and will not bear any remedies of a depressing nature. A daily vapour bath becomes a tax upon the constitutions of such patients, which is a very serious addition to the causes of debility under which they already labour.

In the evidence before the commission to which I have referred, Mr. Cutler states that at St. George's Hospital he had tried the plan of treating syphilis by mercurial vapour baths, and found that patients were "knocked over" as soon by that mode of treatment as by the administration of mercury in other ways. It is not, however, stated what preparation of mercury was used. When I became surgeon to St. George's Hospital I took some pains to ascertain how the baths were given, and it was much the same in all cases. The patient was made to perspire profusely, and was afterwards rubbed dry. He was directed to put his head occasionally into the box in which he was placed, so as to breathe the fumes of the remedy. In the different institutions in London and elsewhere where medicated baths are given, this plan was, and is still, very generally adopted. With regard to it three points are to be noted:—1. The mercurial powder deposited on the skin, which, if it is to do any good at all, must there produce its effect, is immediately wiped off, and in so far its action is prevented. 2. The patient breathes the vapour in a concentrated form, and sometimes this produces inconvenient symptoms. 3. The perspiration not only weakens the patient, but itself is a means of removing the medicine from the surface of the skin. Each of these points is of importance, and applies to mercurial fumigations of all kinds. A patient in St. George's Hospital had a secondary syphilitic ulceration, which threatened to destroy one side of his nose. He was ordered a calomel vapour bath daily. He was thin and emaciated, and complained of increasing weakness during his treatment. I found that he was using a water vapour bath, as well as a calomel bath, and to this I attributed in some degree his increasing debility. He was directed to use his bath with very little water. A change for the better was immediately perceived, and the ulceration was very soon permanently healed. The fact of the debilitating effects of a daily steam bath I have now witnessed in a great number of instances, far too numerous to require any further particular illustration; and, in order that as few mistakes as possible may in future be made in this respect, I have had an apparatus constructed by Mr. Blaise which will hold an ounce of water only.

The inhalation of the vapour of mercurial preparations also requires attention. For want of this all the preparations which have at different times been used have in turn lost their reputation.

Dry mercurial preparations, as I have convinced myself by a number of experiments, irritate the lungs, and cannot be continued with impunity. In an institution in London with which I am not unacquainted, it was long the practice to give the mercurial baths in a room without a fire. The patient was undressed and covered by a Mackintosh cloak, and not unfrequently had a kind of shivering fit before he

began his bath. The skin under such circumstances would certainly not be left in a good state for the action of the remedy.

I knew a case in which a patient was ordered a calomel bath for the whole body. The quantity to be used was half a drachm, and the ordinary calomel was used. By mistake he only inhaled the vapour, instead of having a bath for the whole body. A considerable degree of irritation of the lungs followed, with general disturbance of the constitution. I saw this patient at the expiration of four years, and he then, as I believe with more or less justice, attributed a chronic affection of his lungs to the mistake which had been made. It is true that the patient was of a strumous habit, and had before been treated with cod-liver oil, but it is equally true, in my opinion, that the irritation artificially produced tended to localise and develop his disease. In another case, in which a large quantity of the vapour of ordinary dry calomel was ordered to be inhaled, in the same thoughtless and mischievous way the patient's constitution was very much interfered with, and the skin of the face remained livid for some hours afterwards.

The third point which has been noticed—namely, that of wiping the mercurial powder off the skin immediately after it has been applied, is so much a matter of common sense, that in itself it requires no illustration. But, it may be asked, what proof is there that mercury is absorbed in this way? The answer to this is, that with regard to mercury, as with other medicines, we judge by the effects produced. There is probably no medicine which, when once taken into a patient's system, can be reproduced in the same state as that in which it was administered; there are few that can be reproduced in any state of combination. When mercury is given by the mouth or by inunction, it would be very difficult to prove its existence afterwards in the blood, but that it does affect the living actions of the blood we know by the results that are obtained. It is the same with regard to calomel applied to the surface of the skin, although its effects differ very materially in different individuals. A medical man of my acquaintance had brought his skin, by the constant use of baths of various kinds, into very fine condition. He found that he could never take a calomel bath two days together without the effects being visible on the gums. In trying this experiment he was as careful as possible not to inhale any of the vapour. There was nothing peculiar in this gentleman's constitution, as far as could be ascertained, with regard to mercury taken internally.

As an extreme example in the opposite direction, I may mention the case of a patient who came to me one morning, and said, "I have been going on as you directed." I replied that I was very sorry, but that I did not recollect him. "Oh! I don't wonder at that," he said, "it is two years and a half since I saw you." It turned out that he had been taking the calomel bath every night, sometimes for two and sometimes for three months at a time, and altogether he had taken about 900 baths. He was looking the picture of health, had nothing to complain of, and had long ago lost all the symptoms for which he originally came.

The plan which I have usually adopted then is as follows: A lamp, in which the methylated spirits of wine is burned, is put into a case, made principally of wire-gauze, on the principle of the Davy safety-lamp. The top of the case is fitted with a central, movable, small circular plate, surrounded by a trough, which should contain one ounce of water only. The water should be boiling when first put in, or should be allowed to remain over the lighted lamp until it begins to boil. Thirty grains of resublimed calomel are then spread out on the central small circular plate. This should be quite dry. The patient then sits, without his clothes, on a small stool or chair, and the lamp is placed between his legs. A cloak made of moleskin or some thick material is then made to cover the whole apparatus, and is tied round the patient's neck. It is important that the cloak should go quite down to the ground all the way round. As the water boils a certain quantity of steam is enclosed within the cloak, and a little later the vapour of the calomel as it rises passes through the steam and becomes mixed with it. The water first disappears, and the calomel is sublimed in from ten to fifteen minutes. The patient then gets into bed with the cloak on, so as to make it his night-dress. In this way the calomel is necessarily kept on the surface of the skin. The cloak used is furnished with a cane hoop, so as to be kept away from the skin during the action of the bath, and this hoop may be removed as soon as the bath is over, and replaced again before the bath is used the next night. The cloak has a slit in front, which the patient is generally directed to open for about an inch, so as to allow some of the vapour to escape. This rises in front of his mouth and nose, and he is directed to inhale it for a minute, at the expiration of each five during the continuance of the bath, so as to breathe the vapour for about three minutes altogether. The patient during this time keeps his head up, so that the moistened calomel vapour passes for about six inches through the common air before it is inhaled. This inhalation is not always necessary, but it furnishes a means of regulating with the greatest nicety the action of the mercury, as indicated by its effects upon the gums. I have never found mercury administered in this way produce salivation where patients had not also taken it in some other form. The action is upon the surface of the body, and the internal parts are comparatively unaffected. No diarrhœa is produced except from some accidental cause. The stomach and intestines are not irritated, and are free for the use of food or medicine. The perspiration produced amounts only to a slight moisture on the skin, and when this is the case the patient very rarely experiences any debilitating effects from the continued use of the bath. During this treatment I generally recommend patients to abstain from taking vegetable acids; and for this purpose, as a rule, they are told not to eat raw vegetables or raw fruits—such as salads, cucumbers, celery, apples, pears, and oranges. As the object is to have the calomel in contact with the skin, the patient washes only as much as may be necessary. Boerhaave long ago made the observation, that if patients went about their usual occupations, and followed their usual pleasures, he could not cure them; and Pearson, as has been stated, found that, under any plan of treatment, if the patients were much exposed to cold air, the effect of his remedies was materially interfered with. This will be the case with regard to any plan of treatment by which there is a fair prospect of really curing the disease. I know how often it has been asserted that the disease is not cured; but a long experience now enables me to say very positively, as I have before remarked, that numbers of patients, after having gone through a proper course of treatment, pass five, ten, fifteen, or twenty years without any fresh manifestations. They believe themselves to be cured, and whatever impression may be left upon their constitutions, no inconvenience subsequently arises either to themselves or their families. In this sense, then, syphilis may be cured, as well as any other recurrent fever to which the human body is liable.

But to effect this, as I have intimated, with any degree of certainty, the action of the medicine should not be interfered with by a diet that is likely to produce diarrhœa, or by exposure to fresh air or cold water. Fresh air has long been known as the antidote to mercurial action; and dabbling in water, either hot or cold, not only washes the calomel off the skin, but its evaporation chills the surface of the body, and, certainly, according to my experience, prevents the full action of the bath as I have described it.

If a patient wants a wash, he may have two or three times a week a warm bath, and remain under the water as long as he pleases. There is then no evaporation from his skin, and he should dry himself as quickly as may be when his warm bath is finished. These are matters of minute detail, but upon their observance or otherwise the success of the treatment of many a case will depend. During the first period of treatment I generally recommend a patient not to be in the open air more than an hour a day, and to select the best part of the day for the purpose, but I seldom object to his going about any ordinary in-door occupation. When the mercurial action is once established, and towards the end of the course, a greater degree of liberty may be allowed. The effect produced is usually a slight feeling in the gums, some increase of saliva, and a kind of metallic taste in the mouth. The gums sometimes become red and swollen, and some pain is experienced in biting a hard crust. All the beneficial effects of mercurial treatment may be obtained by the amount of action indicated by these symptoms, and I seldom, if ever, produce more. The time required for a mercurial course is a question of much interest and importance. This will necessarily vary, according to

the nature of the case. We have before seen that the manifestations of syphilis vary very much at its different periods, and that the disease is modified in a very important degree when it recurs. Under these varying conditions the mercurial treatment must be varied also, but there is no phase of syphilitic disease, in my opinion, to which it is not applicable.

By the use of the calomel vapour bath, as I have described it, the evils resulting from the internal use of mercury, and the inconveniences attending inunction, may both be avoided. The remedy may be continued every night, as long as necessary, without danger of depressing the powers of the patient's constitution, without salivation, and without disturbance of the digestive organs. The remedy is applied directly to the parts where the disease, in its primary or secondary forms, usually manifests itself. The slight action maintained on the skin prevents any great determination of blood to other parts, and is in itself beneficial. The plan involves a certain amount of trouble, and the same care with regard to exposure to air and moisture as other modes of treatment do, but it has not their injurious consequences. The whole surface of the skin of the body, and generally the mucous membrane of the nose and mouth, are used for the action of the remedy, and consequently there is no irritation of any one particular part. The action of the skin also in some measure prevents any undue effects of the remedy on the gums, as may also be observed in the administration of the Plummer's pill. This remedy very rarely produces much effect upon the mouth, as the antimony which it contains determines its action rather to the surface of the body.

In the forms of the disease affecting the skin, and characterised by the adhesive inflammation, whether primary or secondary, patients will bear well any form of mercurial treatment, at least for a time. If we have syphilis alone to deal with, at whatever period after infection, the disease is one, and the treatment the same. If the patient is of a strumous constitution; if he has previously been debilitated by prolonged, irregular, or injudicious courses of mercury; if he has suffered from ague, or some other form of fever; or if he has had disease of the liver, spleen, or some other internal organ, then mercury, whether in what have been called the primary or secondary forms of syphilis, must be administered with caution.

Mr. Pearson found that rather a shorter course of mercury was required for primary syphilis than for secondary. I have found, on the other hand, that a longer course is required for primary than for secondary disease. It is probable that, as the diagnosis between real syphilis and local forms of the venereal disease was not made with the same accuracy in Mr. Pearson's time as at present, some cases that were not really syphilitic were included among those which were treated with mercury. These would for the most part get well rapidly, and would reduce the average time during which the treatment was continued. It would, however, be a great mistake to suppose, although no accurate account was then published with regard to affections which would, and those which would not, be followed by constitutional disease, that therefore the older surgeons had not the practical tact of at least distinguishing some of these.

The late Mr. Walker recognised what he called the gonorrhœal sore, and which, to my eye, and as far as my memory serves me, corresponded to what I have described as the local suppurating sore. It is true that many surgeons subsequently, and even in the present day, profess not to be able to distinguish an infecting from a non-infecting sore. Thus, Mr. Cutler, in the evidence before the commission previously referred to, says:—"My opinion is that no one can tell from the appearance of the sore, without the history of it, whether it is infectious or not; that is to say, take what is defined to be the Hunterian chancre, my belief is that in the case of any sore on the penis, if you irritate it, you may convert it into a sore having all the appearances of the confirmed Hunterian chancre; and so strongly do I feel upon that, that at the present time I never determine, in considering the treatment, to administer mercury until I have heard clearly the history of the case."

Now, in spite of the difficulty which formerly existed, and still exists, with some surgeons, of distinguishing an infecting from a non-infecting sore, I am firmly of opinion that the older surgeons did not give mercury in the indiscriminate way that has been supposed; but still that they did give it in some cases where it was not necessary, and that the average period during which it should be continued for primary syphilis was therefore made to appear much shorter than at present. Another point, which was not formerly accurately considered, has tended to the same result: there is seldom a distinction drawn in the writings of the older surgeons between a disease treated for the first time and one which had recurred in a modified form. The latter would be very much more easily dealt with, and require a much shorter period of treatment.

For primary syphilis occurring in a patient for the first time, uninfluenced by the existence of previous disease in himself, or by hereditary influences of the same kind, I seldom now discontinue the treatment under three months, and I generally explain to the patient, to begin with, that unless he is prepared to follow such a course, he had better wait until the secondary symptoms appear, and then undergo his treatment. It is often difficult to persuade a patient who has a slight induration, accompanied by the existence of amygdaloid glands, that his affection is of a nature to require such a course. He will probably ask some friend before he consents, and not unfrequently it has happened in my experience that he has been told that it is "nothing," and has waited until he has become practically convinced of the truth of the diagnosis. This occurred in the celebrated case of the late Mr. Wyndham, which I need not mind alluding to, as the facts were published over and over again in the daily papers. I told him that he not only had the disease, but that he might communicate it. He replied, "Well! I am told it is not so." I did my best to persuade him, but in vain, and, as was soon after given in evidence, he infected his wife. When a patient consents to undergo a proper course of treatment, I generally make him take a calomel bath in the way I have described every night.

Some slight evidence of mercurial action generally appears on the gums within the first week, and this is steadily maintained, either by the calomel bath alone or by the addition of some other medicine. After this action has been kept up for seven or eight weeks the patient is allowed more liberty, but the mercurial action is never allowed entirely to subside, and no break in the treatment is permitted. If the action of the mercury once entirely goes off, it is exceedingly difficult to establish it again in a satisfactory manner. Should this be attempted by increasing the quantity of mercury, the action reproduced will probably not be of the same satisfactory kind. The gums, instead of becoming slightly spongy and soft, will perhaps ulcerate, and there will be some general disturbance of the patient's system. In the treatment of a primary affection, all induration at the site of the original disease should disappear, and, if possible, the amygdaloid condition of the glands. This last, however, is an effect which it is sometimes exceedingly difficult to produce, and some enlargement of the inguinal glands will occasionally remain, in spite of any treatment, for some years, but often without any other manifestation of the disease.

In all secondary forms of skin disease characterised by the adhesive form of inflammation, the same mode of treatment may be pursued, in combination perhaps with some other medicines, of which I shall have to speak.

When a patient's constitution has been weakened from any cause, especially from a continuance of the disease, the eruptions on the skin will change their character. Different forms of eruption may be observed in the same patient at different times. An eruption which is at first papular, and which terminates then by desquamation, at a later stage will be papular or tubercular, and each papule or tubercle will present a white spot of lymph on its apex, which becomes converted into pus. A great many modifications may now occur. In some cases the papules or tubercles, either separate or in groups, remain in a chronic indolent stage, presenting little change from day to day; in others, the action on the skin and elsewhere passes rapidly into suppuration, ulceration, or even mortification. These different results have been distinguished by different names, which are convenient for the purpose of description, but which, in my opinion, would lead to error if made use of so as to imply that these different accidental results constituted so many different diseases. But, nevertheless, each phase, in the development of a syphilitic disease, may require a modification of treatment.

A FACT BEARING ON THE ETIOLOGY OF CHOLERA.

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THE Yerrowda Central Gaol is situated in the Deccan, some 1865 feet above the level of the sea, and distant some four miles N.N.W. of the town and camp of Poona. The slightly undulated plateau on which the gaol is built consists mainly of trap rock; the country around is bare, a few mimosæ and euphorbiaceæ alone cast their scanty shade over the bleak and exposed locality. It is naturally well drained, the nearest village is a mile distant, and from the central tower of the gaol the Moola river can be seen winding right and left about a mile on each side, and marking with its blue line the limits of the peninsula on which the gaol has been erected.

Some large wells and tanks (former quarries) exist in the vicinity of the gaol, but they are used only for agricultural and building purposes. Quite recently water was brought to the gaol by iron pipes from a lake near Poona; before that the drinking water for the prisoners was obtained from the Moola river before its southerly curve—i.e., before it became polluted by the towns of Kirkee and Poona, around which it flows.

The heat during our last hot season was excessive and unusual, at the same time the diurnal range was considerable. During the month of May, in the shade, the maximum varied between 100° and 106° Fahr., and in the sun from 115° to 126°. The nights and mornings were relatively cool, the minimum in the shade being 72° to 75°. The weather was remarkably dry, the rainfall during March, April, and May being 1 inch and 72 cents., and the number of days on which rain fell during three months only three.

The season did not, however, prove unhealthy, and the admissions into hospital fell below the average; cases of febricula due to exposure to the sun, and slight surgical cases, formed the large majority of admissions, and diarrhœa did not prevail above the average of former years at that season.

At 2 A.M. on the morning of the 27th of May a case of cholera, the patient being in a state of collapse, was taken to the gaol hospital; and by noon on the following day twenty cases had been admitted. These cases came from both circles then occupied, and from nine different barracks, and to all appearance this sudden outbreak was general; but a searching inquiry soon made it evident that the epidemic was as yet limited to a certain number of prisoners who had lately been employed in making a new road from the gaol towards the Moola river, there to join the Poona road; and the first impression of a general outbreak was due to these men being quartered in different circles and distributed among the several barracks.

I do not intend mentioning here the steps taken to arrest the progress of the disease, as I wish to limit myself to the cause of this outbreak; it will be sufficient to state that they were vigorous and carefully carried out, and attended with such success that only two cases occurred from among prisoners who did not belong to the gang of men mentioned above.

The following table will show the principal features of the outbreak of cholera we are considering:—

Date.	Number of cases.	Number of deaths.	Number of recoveries.	How employed.	
				Road gang.	Otherwise employed.
May 27th	7	5	2	7	—
„ 28th	13	2	11	13	—
„ 29th	2	1	1	1	1
„ 30th	1	—	1	1	—
June 1st	1	—	1	—	1
Total... ...	24	8	16	22	2

A few words on the two cases that occurred inside the gaol before examining the interesting and important question of the appearance of cholera among the road gang.

The first case of cholera that occurred among prisoners "otherwise employed" was on the 29th of May. This man was sleeping on the night of the 26th–27th near one of the cases that occurred on that night. The suddenness of the outbreak took everyone by surprise, and much time was required before the cholera cases could be removed. It is not improbable that this man may have been infected by the choleraic discharges, as the patient not only vomited in his vicinity, but passed before him each time he had to resort to the night privy. The second of these cases occurred in a prisoner who had been attending on cholera patients. Contrary to orders, this man took his meals inside the cholera ward, and drank of water that had been standing there. In his case direct infection cannot be doubted.

These two secondary cases disposed of, I will now describe the conditions under which cholera made its appearance among the prisoners who had been working on a certain road during the previous days.

The subjoined tables show the occupation of the prisoners on the days preceding the outbreak:—

A.—*Prisoners engaged in intra-mural labour.*

Date.	Excused from labour.	Gaol servants.	Factory.	Miscellaneous.	Total.
May 24th	59	172	301	16	548
„ 25th	53	172	304	12	541
„ 26th	57	174	310	13	554

B.—*Prisoners engaged in extra-mural labour or in out-door labour in Gaol enclosure.*

Date.	Gaol servants	Public Work Department.	Gaol repairs.	Garden.	Thatching roofs.	Road gang.	Total.
May 24th	161	370	10	42	87	61	731
„ 25th	161	373	10	42	18	134	738
„ 26th	163	376	10	42	18	116	725

These 1279 prisoners, as a body of men, can in many respects be considered as a unit; they have the same diet, the same clothing, dwell in the same locality, are exposed to the same meteorological influences, &c.; they differ, and that slightly, but in one respect, according to the labour in which they are engaged.

From the tables given above it will be perceived that of the total number of prisoners about 554 worked under cover. But cholera broke out among those who had been working in the sun, and as this cause might be deemed to have had some influence on the development of the disease, this group of 554 men will be eliminated, and the inquiry limited to the second group of 724 men, who were all of them equally exposed.

Some of the men belonging to our second group were engaged on masonry; some in dragging heavy water-carts along a bad road, and supplying the jail with water; others were engaged in ploughing, or in garden work, or conveyed the night-soil outside the gaol, &c.; and some in watering and rolling a new road. None of these occupations are one more than the other "cholera-producing," and when we find that among this group of men only a certain number contract the disease, we must seek for an explanation beyond telluric influences, cholera waves, absence of ozone, &c.

Now if the men among whom cholera appeared were on no single point differently placed from the other, with but one remarkable exception, this fact must necessarily carry great weight with us, and assist us in solving the arduous question of the etiology of cholera. All the prisoners, whether engaged in intra- or extra-mural labour, were supplied with water taken from the Moola river before it reaches Poona; "the only exception occurred among the

prisoners engaged in road work, who drank water taken from the bed of the Moola river below the dam."

It will be observed by a reference to the table of employment that the road gang was considerably increased on the 25th and 26th May; the road had already been metalled, and the extra hands were required to water and roll the road, so that it might not be damaged by the daily expected heavy rains. It should be here stated that a certain number of barrels for storing water and water-carts were sent with the road gang, and that water for drinking purposes was brought to them from above the dam. Five water-carts had been also sent with these men for the purpose of watering the road whilst it was being rolled by others; these carts were filled from the nearest water obtainable—that is, from pools in the nearly dry bed of the river, opposite to the Poona end of the road under construction. The prisoners admitted that they had drunk freely of that water, not only when they filled the carts, but also when they were made to wash before returning to the gaol after their day's task was over. The cholera patients to whom this query was put all unhesitatingly declared that they had partaken freely of it; moreover the warder who was in charge of the carts for supplying them with drinking water corroborated the fact in a remarkable manner; he stated that on the 25th and 26th of May he had conveyed to them less water than on the previous days, although the number of prisoners at work on the road was nearly three times as great. "The fact of the road gang drinking water taken from a source different to the one used by the remainder of the prisoners is placed beyond any doubt."

Was cholera communicated to these prisoners through the water they drank? This is the question I will now endeavour to solve.

On the morning of the 29th May Mr. Taylor (the gaoler) and myself visited the locality from which water for watering the road had been taken. The identical spot was shown to us by the warders on duty on the 25th and 26th, and their testimony was corroborated by our finding there several pieces of gaol clothing. Some 600 or 700 yards above this spot the river is barred; a dam was erected there some years ago for the purpose of securing a constant water-supply to the city of Poona, the river generally running nearly dry during the hot weather. The bed of the river from the dam downwards contained but little water; where we were standing we saw several large semi-stagnant pools, separated from similar small expanses by hugh boulders and moss-covered islets of volcanic rocks; slowly flowing streamlets connected these pools one with another, but on our side of the river-bed the current was so weak that we almost doubted its existence. Between the locality on which we were standing and the dam a number of washermen were at work; men and women were seen here and there performing their morning ablutions, &c.; cattle were roaming about; and a glance showed that the bed of the river between the dam and the place from which water had been taken for watering the road must be contaminated by excreta of all kinds. The river was not overflowing the dam on that day, and from inquiries we learnt that it had not done so for several days: one of the sluices was open, but on the opposite (Poona) side of the river. Water was taken from the pools above mentioned and forwarded to Dr. Gray, the chemical analyst to Government.*

Cholera existed at the time throughout the province, in Poona, and in the neighbouring villages. In India the bed of a river in the vicinity of a large city is the usual place selected by travellers before entering the town to perform their ablutions, &c.; washermen are constantly at work in the same locality; in fact, we could hardly expect to find anywhere so many agencies united to contaminate drinking water by means of choleraic discharges, and, irrespective of what the inquiry had already allowed us to surmise, we would have already strong grounds for accepting the outbreak as due to the propagation of cholera through drinking water. In this instance, however, we possess evidence still more direct and positive.

On the 22nd of May two fatal cases of cholera occurred in the village of Yerrowda, situate opposite the dam, and we learnt that on the evening of the 22nd these bodies were washed and burnt, and the clothes worn during their fatal illness washed some twenty yards above the spot from which water had been drunk by most of the road gang, and which proved so poisonous and so deadly to many of them.

Poona, July 1st, 1875.

* Analysis of the water made by Dr. Gray, chemical analyst to Government:—Solid grains per gallon, 10·26; chlorine, ·95; hardness, total, 6·30; hardness, permanent, 3·42; oxygen removed by readily oxidisable matter of water at 140° F., ·072. Part per million of free ammonia, 0·32; of albuminoid ammonia, 0·22.

REMARKS ON THE

ANATOMY AND PATHOLOGICAL RELATIONS OF A NEW SPECIES OF LIVER-FLUKE.

BY J. F. P. McCONNELL, M.B.,
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ON the 9th of September, 1874, I made a post-mortem examination of the body of a Chinaman, and found in the liver, obstructing the bile-ducts, a large number of "flukes." A careful examination of these, and comparison with other known distomata, have convinced me that they not only differ from the ordinary liver-fluke (*Dist. hepaticum*), but constitute an entirely new species. I desire therefore to describe the salient anatomical characters of these flukes, then to give a brief account of the post-mortem examination alluded to, and lastly to make a few remarks upon the case.

The woodcuts which accompany this paper will facilitate the description. Fig. 1 represents a few of these flukes drawn to natural size. Fig. 2 is one specimen enlarged to about six times the natural size, showing the ventral surface. Fig. 3 represents the ova magnified 300 diameters.

FIG. 1. *Ad. Nat.*

FIG. 3. × 300.

FIG. 2. × 6.

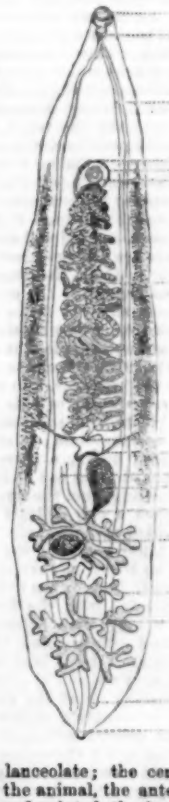

Fig. 2.—*a*. Oral sucker. *b*. Œsophagus. *c*, *c'*. Right alimentary canal. *d*. Ventral sucker. *e*. Genital orifice. *f*. Uterine folds. *g*. Ovary. *h*. Vitelligene gland (right). *i*. Vitelligene duct (right). *k*. Right testicle. *l*. Receptaculum seminis (?) *m*. Left testicle. *n*. Vas deferens. *o*. Termination of vas deferens. *p*. Pulsatile vesicle. *p'*. Water-vascular canal.

The body is narrow, flattened, lanceolate; the central portion being the broadest part of the animal, the anterior and posterior extremities tapering and pointed, the former, however, being much narrower than the latter, which is

more strictly ovate. The surface of the body is smooth, quite free from hairs or spines even in the fresh condition. The borders have a slightly undulating outline. At the anterior extremity (Fig. 2) is situated the oral sucker (terminal), *a*—a hollow disc, provided with a well-defined sphincter. At the bottom of this cup-like cavity is the mouth; this leads into the pharynx, *b* (which is circular or slightly oval-shaped, and is probably muscular), and thence into the œsophagus. The œsophagus bifurcates in the median line of the body (a little distance above the ventral sucker) into two alimentary canals, *c*, which diverge as they pass downwards and outwards along the sides of the body, slightly widening as they proceed, and converge again towards the caudal extremity, close to which they terminate in blind cul-de-sacs, *c'*. These canals are unbranched throughout. On the inferior surface of the body is the ventral sucker, *d*; situated in the median line, and about $\frac{1}{6}$" (one-sixth of an inch) below the oral sucker. It is imperforate, and provided with a sphincter, the radiating fibres of which can be clearly distinguished. This sucker is slightly smaller than the oral, measuring $\frac{1}{14}$", whereas the latter is $\frac{1}{12}$".

Just above the ventral sucker is a minute dark dot, *e*, which appears to be the genital orifice. No penis or penis-like appendage can be detected, but ova have, in several specimens, been seen to assume a linear arrangement between the little orifice just mentioned and the hollow ventral disc into which they have dropped. Opening into this genital orifice, in favourable specimens, can be traced the delicate tubular termination of a convoluted uterine tube. This structure is highly developed, and consists of a series of very intricate windings, *f*, which communicate posteriorly with a flattened, somewhat square-shaped body, the ovary, *g*. The uterine tubules are semi-opaque, but in the more transparent portions numerous ova are seen collected together within the folds. The uterus and ovary occupy rather more than the middle third of the animal.

Occupying the interspaces between the alimentary canal and the lateral borders of the body on either side are the dark, pigmented-looking structures, the vitelligene structures, *h*. These communicate with the ovary by two delicate canals, which run transversely inwards to it, and constitute the vitelligene ducts, *i*.

Placed a short distance behind the ovary is a large oval-shaped body, the testis, *k*; which is succeeded by a remarkable and peculiar development of branched, dendritic-looking structures, *l*, among which, in several specimens, a rounded smaller testicle (*m*) can be distinguished. This apparatus appears to be connected with the male generative organs, and forms perhaps a kind of receptaculum seminis. This is the most marked and distinguishing character of this fluke. The testes and branched receptaculum are of a rusty-brown colour, both of the same tinge,* and have granular amorphous contents; the connexion, however, between this apparatus and the testes is uncertain, but, as far as one can speak from a very careful examination of several specimens, the arrangement is that which has just been briefly sketched. The position and shape of the second or smaller testicle are also very variable. In some of the parasites only one large globular organ of this kind can be discovered; in others, the position of the second testis is lower down the axis of the receptaculum; in others again, instead of a distinctly rounded organ, a mere diffuse "blurring" of one of the branched tubes can be held to represent this second testicle.

Starting from the upper part of the male generative apparatus, a very delicate thread-like structure can be seen, *n*, which runs upwards by the side of the larger testis to the lower border of the ovary, and probably above it, but can be traced no further. This appears to be the seminal efferent duct, or vas deferens. The point at which it communicates with the female generative apparatus was not for a long time ascertained; but lately, in a specimen stained with carmine, and then *pressed* between thin pieces of glass, I have been able to discover (what seems to me the continuation of this tubule) a very delicate structure, *o*, curving round the ventral sucker on the *opposite side* to the termination of the uterine folds, and ending at the same genital orifice, or at a point very close to it, as depicted in the engraving (Fig. 2). As this tubule is a flexible elastic structure, it may very possibly run up the same side as the uterine tubule, and not occupy an opposite position; I have drawn it, however, exactly as seen in the specimen alluded to.

Lastly, at the caudal extremity of the body of the fluke may be seen a pulsatile vesicle or bulb, *p*, associated with the water-vascular system of the animal; the continuation of the same upwards, in the form of a vascular canal, can be traced for a certain distance, passing above the male generative apparatus in a winding course, and being lost sight of at a short distance to the left of the right testicle, *p'*. The average length of the distoma now described is $\frac{7}{10}$", and the breadth $\frac{1}{3}$". The latter is very constant; the former has slight variations—viz., from $\frac{8}{10}$" to $\frac{6}{10}$".

I have not observed any further marked peculiarities in the minute structure and arrangement of the tissues and organs of this particular parasite but what have been described by systematic writers on entozoa; so that I refrain from adding unnecessarily to the length of this paper by giving detailed accounts of microscopic appearances already well known.

The ova are of distinctly ovoid shape (Fig. 3). A short distance from the more pointed extremity is a dark, transverse line, just as is usually seen in the ova of distomata, and indicating the line of contact of that lid-like organ or operculum, which, after a time, spontaneously separates. The average length of each ovum is $\frac{1}{113}$", and the average breadth $\frac{1}{170}$"; thus, roughly speaking, it is twice as long as it is broad.

The individual from whose liver these flukes were obtained was a Chinaman, aged twenty, a carpenter. He was brought into the Medical College Hospital at midnight on September 8th, 1874, in an insensible, moribund condition. The only history that could be obtained from the "friend" who accompanied him was, that the patient had been suffering from "fever" of a continued type for about a fortnight. The insensibility was profound; the pupils were normal; the conjunctivæ looked pale. There was considerable dyspnœa; a hard, tense, distended, and slightly tympanitic condition of the abdomen; a hot skin, and an almost imperceptible radial pulse. He never rallied, but died, in much the same state, two hours and a half after admission.

A post-mortem examination was made the next morning, five hours and a half after death, a brief summary of which is as follows:—Body fairly nourished; pupils dilated; conjunctivæ jaundiced; rigor mortis strong in the lower limbs. The dura mater yellow-stained; vessels of pia mater everywhere gorged with dark blood, slight serous effusion also into its meshes; cerebral substance moderately firm; puncta large and bleed freely; grey matter of both cerebrum and cerebellum particularly dark—a deep leaden hue, such as is met with in many of the severe remittents of this country. The large pulmonary vessels at the roots of the lungs contained much fluid dark blood, but the lung-substance everywhere else was rather pale and anæmic—structurally healthy. One ounce of deeply yellow-tinged serum was found in the pericardial cavity; a few dark clots and fluid blood in the right chambers of the heart; the left were almost empty. The peritoneum was healthy, and no effusion was found into the abdominal cavity. The liver was large, swollen, and tense; superficially of a dark-purple colour, on section paler, more dingy or muddy-looking. Its parenchyma everywhere very soft. The large portal and hepatic veins were filled with fluid blood, and the bile-ducts particularly distinct from their large size, and distension with thick yellow bile. On incising the liver in different directions it was noticed that small, dark, vermicular-looking bodies escaped on to the table, and on more careful examination these were clearly seen to protrude from the bile-ducts, which, on being dissected, were found more or less obstructed by and containing them in large numbers, some lying free, others coiled up, and either solitary or in groups of twos or threes within the biliary ducts; all were dead. The gall-bladder was full; the cystic and cholodic ducts were patent. The bile in the bladder was of a very deep yellow (orange) colour, thick, and measured about an ounce and a half. No distomata were found in the gall-bladder, nor were any ova discovered on microscopical examination of the bile and lining membrane of this sac. Numerous ova and shreds of epithelium were found in the biliary canals. (The weight of the liver after incision was 54½ oz.) Portions of this organ were hardened, thin sections made, and examined

* In the diagram the engraver has made the testicles darker than the rest of the apparatus, and their contents somewhat largely molecular, but this is not correct.

microscopically. A most remarkable and intense pigmentation of the parenchyma was observed—not mere staining, but a positive infiltration of black pigment, granular in character, and not confined or specially distributed in the interlobular tissue, but occupying the hepatic cells also within the lobules; the greater portion being disposed in the form of minute, very dark, granular depôts, from which smaller molecules radiated in all directions as from a centre. The pigment matter appeared to be biliary rather than hæmatoid. Many of the hepatic cells were also infiltrated with fat, and the nucleus in the majority was ill-defined or altogether indistinguishable. The spleen was found enlarged; its capsule stretched, slightly thickened, and opaque; its substance very dark and pulpy; weight 13¾ oz. The kidneys were moderately hyperæmic and dark. The small intestines were found deeply bile-stained; the large, natural. The fæcal contents of both—partly solid and partly liquid—were bile-coloured, but no distomata were found in them, although carefully washed and examined.

Remarks.—The morbid anatomy of the liver in this case seems unequivocally to point to the presence of the flukes in its biliary ducts as the exciting cause of the acute and extensive structural degeneration of the proper structure of the organ, and of that cholæmic condition induced by the obstruction of the biliary channels which appears to have been the immediate cause of death. It is noticeable that the gall-bladder itself contained no distomata, nor exhibited any evidences of having been occupied by them, while the bile-ducts were found densely crowded. I must have collected at least thirty specimens in my dissections, and numbers doubtless still remain in those portions of the liver which I have preserved entire, for hardly any duct of medium size has not been found to contain two, three, or more of these parasites.

The discovery of this distoma may perhaps throw some light upon the pathology of those obscure liver enlargements and jaundices which every now and then, in this country at any rate, are presented to the practitioner; and although I never met with an analogous case, yet I can recall to memory a few instances during the past three years, of Chinamen especially, many of whom are settled in this city, who have applied to me in the medical out-patient department of this hospital for the treatment of obscure, hard, massive enlargements of the liver, with or without jaundice, and in whom I am now naturally inclined to suppose that a similar cause for the disease might have existed.

The Chinese as well as the Burmese are well known to be "filthy feeders," delighting in putrid messes of half-raw fish, &c.; they are bound by no caste prejudices (as the natives of India are) to abstain from any kind of "flesh, fish, or fowl"; they partake, moreover, of all kinds of "vegetable food." The sources from whence the larvæ of such parasites may be derived are therefore not far to be sought. In the present instance, I regret to say, I have been unable to gain any information as to the antecedent history and habits of the deceased. The "friend" who brought him to the hospital never reappeared, and the body after death was "unclaimed." With reference, however, to this question, my attention has been directed to a paper by Professor Leidy, of America,* who reports that he had received from Dr. J. G. Kerr, of Canton, China, a worm which "was vomited by a Chinese boy, aged fifteen, and brought to him" (Dr. Kerr) "an hour and a half after its expulsion, when it was still alive. It had the appearance of a leech, and was red in colour, about an inch and a half long, and three-quarters of an inch where widest. Dr. Kerr also stated that a girl of four years, of English parents, living in Canton, passed from the bowels at one time nine of these worms. With these exceptions Dr. Kerr had not met with anyone who had ever seen or heard of anything of the kind." Prof. Leidy is of opinion that this parasite is a true liver-fluke. He says: "The worm exhibits some differences from D. hepaticum as usually described, but perhaps not sufficiently to characterise it as a distinct species." The specimen had been preserved in strong alcohol, which had doubtless contracted and reduced it in size, "but it is yet larger than the size assigned to D. hepaticum. It is perfectly smooth throughout, and exhibits no trace of roughness to the integument. It is ovate-lanceolate in form, and gradually widens from the anterior to the posterior rounded extremity. The ventral acetabulum is twice the size of the mouth, and is situated about its own diameter behind it. The genital organ with the exserted spiral penis is placed just in advance of the ventral acetabulum. The measurements of the worm in its present condition are as follows:—Length, 17 lines; width at the posterior third, 7 lines; thickness near centre, 1 line; diameter of mouth, ⅔ line; diameter of acetabulum, ¾ line."

With respect to the identification of the distoma found by me, I have carefully and diligently searched such works as are here accessible (works of reference being very few and with difficulty attainable in this country), especially the classical helmintholographs of Dr. Cobbold,† of Van Beneden,‡ and of Leuckart,§ but have been unable to find the description of any distoma which possesses the anatomical peculiarities that distinguish the one now under consideration. That it is not the ordinary D. hepaticum there can hardly be any doubt. It is more closely allied to the D. lanceolatum of Mehlis; but, apart from certain differences in size and general conformation, there are very important differences in the position and construction of the male and female reproductive organs between these two species. To enter into an account of these minutely would occupy too much space, and, moreover, does not coincide with the primary or principal object I have had in view in the publication of the history of this case. I have been moved thereto more by pathological than purely anatomical considerations; nevertheless, I think I may be able to express my impressions with respect to the latter by exhibiting in a tabular form some of the more prominent differentiating peculiarities of these three distomata.‖ Thus:—

	D. Hepaticum.	D. Lanceolatum.	New Liver-fluke.
Length	¾" to 1".	½" (8-9 mm.)	$\frac{7}{12}$".
Breadth	¼" to ⅜".	1¼".	¼".
Oral sucker	Smaller than ventral.	About same size.	Larger than ventral.
Integument	Covered by minute spines.	Smooth.	Smooth.
Intestinal canal ...	Branched.	Not branched. Terminates at lower fourth of body.	Not branched. Extends through the whole length of body to the caudal extremity (nearly).
Male reproductive organs	Form a series of spread-out vermiform tubes.	Form two distinct globular testes, placed one above the other in the median line *directly below* the ventral sucker.	Form one or two globular testes, occupying the lower third of the body *below* the female reproductive organs, and are connected with a very remarkable development (receptaculum seminis?).
Female reproductive organs	.....	Occupy central and hinder parts of body *below* the testes.	Occupy the anterior and middle third of the body *above* the testes and seminal apparatus.
Ovum...	$\frac{1}{150}$ × $\frac{1}{270}$.	About $\frac{1}{250}$" × $\frac{1}{312}$".	$\frac{1}{333}$" × $\frac{1}{1666}$".

* Proceedings of Acad. Nat. Sciences of Philadelphia, Part iii., p. 364.
† Entozoa and the Internal Parasites of Man.
‡ Mémoire sur les Vers Intestinaux.
§ Die Menschlichen Parasiten.
‖ I need hardly refer to the D. conjunctum of Cobbold. Although the anatomical "arrangement of parts" in this little fluke has a somewhat

In conclusion, I have to acknowledge my great indebtedness to my friend Dr. T. R. Lewis, who has afforded me much kindly assistance and encouragement throughout this research, and I would add that I intend to forward by the earliest opportunity to Professor Parkes, of Netley, a portion of the liver and several specimens of this distoma for the museum of the Royal Victoria Hospital.

Calcutta.

CASE OF

POPLITEAL ANEURISM CURED BY AN EXTEMPORISED COMPRESSOR.

BY NATHANIEL ALCOCK,
SURGEON, ARMY MEDICAL DEPARTMENT.

M. H——, aged thirty-eight years, wife of a private in the 47th Regiment, was admitted into the Female Hospital, Aldershot, on July 8th, 1875. For more than six months she had felt undefined shooting pain about the right knee, without, however, being incapacitated from her usual employment. On Sunday, July 5th, she went as heretofore to the North Camp chapel, carrying in her arms a child eighteen months old; when descending the incline approaching the chapel she became suddenly conscious of a painful throbbing at the back of the knee, but remained through the service, and subsequently carried home the child. The pain continued through the evening and night of Sunday, yet she went on the following morning to wash at the washhouse; by this the pain was much increased, owing to the labour of carrying water to and fro, and at night it became so intense as to prevent all rest. On Tuesday morning she walked in great agony to the station hospital, and, returning with no little difficulty to her hut, remained lying down in accordance with the directions of the medical officer till the afternoon of the next day, when she was removed to the Female Hospital.

When seen at 6 o'clock P.M. on Wednesday, July 8th, there was an aneurism about the size of a small hen's egg, pulsating very strongly, with a feeling of forcible dilatation at each heart-stroke, as if the sac was very thin. Having in a female hospital neither the command of relays of students as in a civil hospital, nor of orderlies as in a military one, it was impossible to organise a corps of digital compressors. Accordingly, at 7 o'clock, a Carte's tourniquet was applied to the femoral, and pressure maintained with alternately complete and partial control of the circulation for four hours, but could not be continued longer owing to the pain excited. All treatment was omitted for the night.

At 11 o'clock on the day following Carte's tourniquet was again applied, a nurse's finger being made the immediate pad, as that was best borne. A second tourniquet was secured over the vessel at Scarpa's triangle, to be tightened from time to time as a relief to the first. Pressure was thus continued as completely as the patient's restlessness would admit, but was practically only intermittent, for seven hours, when it could be no longer tolerated. No appreciable alteration had taken place in the aneurism; further compression being quite impossible, the leg was at 6.30 P.M. tightly flexed upon the thigh, and left so for the night. Flexion as complete as could be accomplished by lacing the limb up in a kind of leather stays was kept up without a moment's intermission for three days and four nights.

At 10 o'clock on the 12th of July the tumour was again examined, and seemed to have become slightly less expansive, feeling as though the wall of the sac was a little thickened; but the amount gained was so very doubtful as to render the prospect of cure by this means very hopeless. Carte's tourniquet over a finger was resumed; but in an hour and a half the patient became so unmanageable from the severity of the pain that it had to be finally dispensed with, and the limb was again flexed. The treatment of the case seemed now narrowed to two alternatives—either continued anæsthesia by chloroform for eight or ten hours to admit a perfect trial of instrumental pressure, or operation. While endeavouring to decide upon the best course to be pursued, I remembered that Dr. Bellingham had found the weight of a conical piece of lead to be borne when no instrument would be submitted to. I accordingly got from the matron a tin funnel, inserted a cork into the narrow end, and covered this with a soft pad. The funnel was then filled with shot, and the whole enclosed in a conical calico bag to prevent the shot escaping. This was applied at 6 to 8 P.M. without causing much inconvenience. It was then removed, and the limb flexed for the night.

At 9.30 A.M. on the following morning (July 13th), the aneurism being unaltered since last examination, the shot-funnel was placed over the femoral at the fold of the groin, the exact position of the vessel being indicated by a piece of soap plaster, spread on leather, pasted over it, and additional shot was poured into the bag until the circulation was completely stopped; the limb was unbent to relieve the acute pain in the front of the knee, and by the almost incredible patience of the matron and the ward nurse the weight was held in this position for twelve hours and a half without the slightest variation. At the end of that time, to my very great astonishment, all pulsation in the tumour was at an end, and the aneurism cured.

For two days the funnel was applied for a few hours each day to secure the full contraction of the clot, and then was finally omitted. The total weight of the loaded funnel was 6 lb. 2 oz.

The collateral circulation was so effectually developed that the temperature of the limb was not at any time perceptibly lowered, nor has any inconvenience arisen from occlusion of the main artery.

The tumour is now (July 23rd) reduced to the size of a small walnut, and is perfectly solid.

Aldershot.

THE PHYSIQUE OF FACTORY CHILDREN.

BY CHARLES ROBERTS, F.R.C.S.,
LATE ASSISTANT-SURGEON TO THE VICTORIA HOSPITAL FOR SICK CHILDREN, ETC.

THE evidence given by Dr. Ferguson, of Bolton, before the Royal Commission on the Factory Acts, has produced a deep impression on the public mind, and has been noticed and commented on by THE LANCET, *The Times*, and the public press generally. While ready to admit to the uttermost the ill effects on the constitution of children of the substitution of tea and coffee for milk in their diet, and of the degenerating effects of intemperance in the parents, and, worse still, intemperance and the use of tobacco in their progeny, I am disposed to think that Dr. Ferguson very much over-states his case, and for some reason, which requires explanation, his experience of the degeneracy of the factory population is not borne out by wider and equally exact and careful observation; but, on the contrary, there is evidence of the improvement of the physique of the factory children.

In the winter of 1872 and '73 I was engaged with others in investigating this subject, for the purposes of Dr. Bridges's and Mr. T. Holmes's "Report to the Local Government Board on the Proposed Changes in Hours and Ages of Employment in Textile Factories," and I had opportunities of examining, weighing, and measuring many thousands of factory children in Bolton (Dr. Ferguson's town), Bury, Rochdale, and other manufacturing districts, and afterwards of comparing them with the children in York and the agricultural districts in the North Riding; and the following notes, taken at the time and published in the Report, will show the result of that investigation:—

The factory children are fairly well developed, and remarkably free from constitutional diseases; and, with the exception of a disposition to flat-foot and a relaxed state of the ligaments of the knee- and elbow-joints, are free from deformities.

In general conformation of body the factory children do not compare favourably with the agricultural. In the manufacturing towns the children are short of stature, have

close resemblance to that in the new distoma, yet its size (about ¼") precludes at once its being recognised as anything more than an allied species, and *it has never yet been found in man.*

thick limbs and large feet and hands, and are muscular, and in tolerable condition as to fat. They produce the impression on the mind of having bodies too old for their heads (and ages).

Flat-foot, with a general disposition to knock-knee, is very common among the factory children, while both are rare among the agricultural, among whom there is a disposition to the opposite state of bow-leg.*

A few cases of deformity of the chest are noted in the tables as "pigeon-breasted," but they were all of a slight character. A few cases of the opposite state of depression of the sternum came under my notice also; but in no instance did I find a marked rickety affection of the long bones or of the bones of the face.

Scrofula, like rickets, appears to be equally rare among factory and agricultural children. Probably most of the cases of "old scars in the neck" recorded in the tables were the sequelæ of the eruptive fevers, as in most instances no other signs of scrofula existed.

In a large majority of the factory children the gums were red and spongy, but did not bleed, nor were there any other signs of scurvy. It is probable that this state of the gums is due to a deficient supply of vegetables in the dietary of the children. From numerous inquiries made among the children, I learned that they generally had meat and potatoes on three days in the week, and bread-and-butter and tea or coffee with little milk the remainder. The other meals also consisted of bread-and-butter and tea, and not of porridge made of oatmeal and milk as formerly.

The development and condition of the teeth in the factory children was very unsatisfactory. Many of the teeth were of a bad colour, badly shaped, and irregular. Teeth with contracted crowns, serrated edges, and deep perpendicular grooves were common; many were marked with deep transverse grooves, as if a file had been drawn across them, and when caries existed—which was very often—it was generally in the course of one of these grooves. All these imperfections in the teeth point to some fault in the health and nutrition of the child during the early stages of its development, but were not due to congenital syphilis.

The personal habits of the factory children contrast very unfavourably with those of the agricultural districts. They were dirty in both body and clothes, the hair unkempt and almost invariably swarming with lice; an irregular form of prurigo—almost the only skin disease found among them—and marks of scratching on the chest and back pointed to the existence of body-lice also. Few of the children were free from the marks of flea-bites. In all these particulars there was a marked improvement going from east to west, Bolton being the worst and Rochdale the best.

With the exception of the flat foot and the somewhat stunted growth of the children, nearly the whole of the disadvantages the factory children labour under are to be attributed to social causes rather than factory work—causes such as Dr. Ferguson so forcibly denounces, and which the Commissioners regret their inability to meddle with. My picture of the health and physique of the factory children is not, however, so dark and hopeless as his, and I can adduce statistical evidence in support of my position.

The following accounts of the weights of factory children nearly forty years ago—viz., in 1835—and in 1873, show a marked advantage in favour of the children of the present day. I also add the weights of the agricultural and town children not engaged in factory work, which may be considered the maximum standard of the labouring classes; and the weights of some boys in our public and middle-class schools, which we may consider the highest standard of our English race at their respective ages. I add also, for the purpose of comparison, the weights of some boys of the same ages in a London charity school, where they are well fed and have plenty of drill and exercise.

Average Weight in Pounds.

Age last birthday.	London Charity School.	Factory Report, 1835.	Factory Report, 1873.	Agricultural Children, 1873.	Public & Middle-class Schools, 1873.
9 years	51·63	51·76	58·72	60·02	61·98
10 „	54·53	57·0	62·74	65·29	67·2
11 „	58·32	61·84	67·02	71·01	74·19
12 „	62·8	65·97	71·06	75·0	78·98
Number of observations.	1770	160	2958	800	1210

From the table it will be seen that a factory child of the present day, of the age of nine years, weighs more than one of ten did in 1835; one of ten now more than one of eleven then; and one of eleven now more than one of twelve then; and it will be seen also that the factory children even of 1835 were superior to the London children of the present time. I regret that the statistics do not go to the higher ages referred to by Dr. Ferguson, but our investigations were limited to children under twelve years of age, who were employed as "half-timers." The numbers are, however, so regular in their increase for the respective ages that they may be relied on as a test of the general physical improvement of the factory population. The heights and chest-girths of the children are not given in the report for 1835, and Harrison's tables, published about the same time, are useless for purposes of comparison, as they include both sexes. Quetelet's tables, published also about the same time, are, for obvious reasons, inapplicable, as they refer to a different race.

I am inclined to think that the cry of the degeneracy of our labouring population has been too readily assented to by our profession; and, if this were the time and place, I could adduce other statistical evidence of improvement in another class of children; indeed, it is fair to infer that, with cheaper and better food, shorter hours of labour, less gross intemperance, and better sanitary arrangements, our whole English race should be improving in physical condition. I hope Dr. Ferguson will submit to the profession the statistics on which he bases his opinions of an opposite state of the degeneracy of the factory population.

Bolton-row, Mayfair.

* For statistics and remarks on this subject see my paper on "Flat-foot" in St. George's Hospital Reports, vol. vii., 1874, p. 311.

CASES OF

RUPTURE OF THE MEMBRANA TYMPANI FROM BLOWS ON THE EAR.

BY SIMEON SNELL, M.R.C.S., &c.

THE publication in THE LANCET recently of Mr. Dalby's interesting cases of injuries to the ear has induced me to record a few brief notes of the following cases, which have come before me during the past year.

CASE 1.—J. N——, aged thirty-three, a turner, applied to me at the Sheffield Eye Dispensary in March, 1874, with a thin purulent discharge from the right ear and defective hearing. On examination, a perforation was visible in the anterior portion of the membrana tympani and, on inflation, a little muco-purulent discharge escaped through it. He gave the following history:—Six months previously (September, 1873), whilst sparring with one of his companions, his head became firmly locked beneath his antagonist's arm. He struggled to free himself, and when, at length, he succeeded, he experienced a singing and buzzing sensation in the right ear, and found his hearing much impaired. Under treatment the discharge soon ceased, and he was lost sight of for a considerable time. Towards the end of November, however, an opportunity was afforded me of ascertaining the condition of the ear. The rupture had now closed, and the hearing had improved. On seeing him again a short time since, he thought his hearing quite perfect, and was surprised to find he could only hear my watch tick at eleven inches with the right ear, whereas with the left he heard it at thirty-six inches.

CASE 2.—On the 29th of April, 1874, I was requested to see, with a medical friend, a young gentleman about twenty years of age. He stated that on the 17th of the month he had had an altercation with a man, who had violently assaulted him, knocking him down, hitting him on the eye and head, and boxing his ears. When I saw him, in addition to several bruises on the head, there was a long, narrow contused wound of the right cheek, ecchymosis of the left eyelids and conjunctiva, and marks of violence on the auricle of the left ear. The left pupil was dilated; he said

he was almost completely blind, and with the ophthalmoscope were discovered several fine capillary hæmorrhages in the retina. A few days later he drew our attention to the left ear, from which, he said, there had been some slight discharge after the assault, with constant buzzing noise, pain, and impairment of hearing. Examination disclosed a large rupture of the tympanic membrane, through which the patient easily blew a current of air. The eye regained its normal appearance, but at the end of July the ruptured membrane was not healed, and, since then, no opportunity has been afforded me of ascertaining its condition.

CASE 3.—James M——, eighteen years of age. On November 13th, 1874, he was playing with a companion, who struck him forcibly on the left ear with his flat hand. After the feeling of heat and tingling following the blow had passed off, he noticed a singing noise in the ear, and fancied he could not hear so well. He also suffered pain, and there was a discharge from the meatus of a small quantity of sanguineous fluid. An examination on Nov. 17th disclosed a rupture of the membrane in front of the handle of the malleus, but smaller than in either of the other cases. The rupture soon closed, but his hearing remained defective, and, on recently testing him, I found that while he heard my watch at fifty-six inches with the right ear, it was audible only at twenty-nine inches with the left.

Sheffield.

NITRITE OF AMYL IN SEA-SICKNESS.

BY CROCHLEY CLAPHAM, L.R.C.P.L., F.L.A.S., PH.D.

IN recommending the employment of nitrite of amyl as a remedy in the treatment of sea-sickness, I do so with considerable experience of its utility. During a trip round the world of nearly two years' duration, in which time I crossed the Pacific Ocean in various directions no less than eleven times, I made the treatment of this distressing malady my especial study,—with what result will be seen below.

On my way out east I ran through all the prevalent modes of treatment, nice and nasty—such as iced champagne, bottled porter, camphor, chlorodyne, belladonna, ice to the spine, &c.,—and, with the exception of the last-named, found them all merely palliatives, and of very uncertain action even to that extent. With respect to Dr. Chapman's spinal ice-bags, I can report favourably of their use in sea-sickness, when procurable; but people will not or cannot provide themselves with these articles, nor will ship-owners supply them in any number, and nothing can be more futile than attempting to treat twenty or thirty sea-sick people with one or two ice-bags.

As to the proximate cause of the malady, I entirely agree with Dr. Chapman that it consists of an undue congestion of the vessels of the spinal cord. On this point I had an excellent opportunity of drawing some conclusions from a post-mortem which I was fortunate enough to make whilst acting as superintendent of the Government Civil Hospital at Hongkong last summer. The case was that of a Chinaman who had been killed, whilst in the very act of vomiting during an attack of sea-sickness, by the fall of a heavy piece of iron from aloft. I found, on making the necropsy (four hours after death) that, leaving out of consideration the heart, which had been pierced by the falling iron, all the organs were healthy with the exception of the spinal cord, the vessels of which were literally gorged with blood throughout its entire length. I was struck with the similarity of this appearance to that presented by the spinal cord of an epileptic patient who died in the "status," and upon whom I made a post-mortem whilst at the West Riding Asylum, Wakefield. Coupling the post-mortem likeness to the resemblance which obtains in life between these two affections (pallor of surface, cold sweat, &c.), it occurred to me that the remedy which, in the hands of Dr. J. Crichton Browne, has proved so valuable in the epileptic "status," might be advantageously employed in the treatment of sea-sickness.

To test the truth of this surmise I made several trips across the Pacific, and tried the remedy altogether in 124 cases. Of these, 121 proved eminently satisfactory, there being no return of the vomiting after the administration of the nitrite; the remaining three cases being only unsatisfactory in so far as they required a further dose or two of the remedy.

The mode of exhibiting the drug which I adopt is by inhalation, three drops* of the nitrite being poured on a handkerchief and held *close* to the patient's nose. The inhalation must be conducted rapidly, so as to give the full influence of the drug without a *too free* admixture of air.

The action of the remedy in freeing the circulation and relieving the hyperæmia of the spinal cord will be quickly evidenced by a throbbing sensation in the temples (occasionally rather disagreeable) and by a more or less general flushing and increased warmth of the surface of the body. This warm and comfortable glow, which takes the place of the chilly sweat so disagreeable in this disease, is usually followed in the course of half an hour by a pleasant slumber, from which the patient wakes to eat a hearty meal. Should the sickness recur, which it may do after the lapse of twenty-four hours, the inhalation must be repeated. The patient should be in bed when under treatment, so as not to interfere with the subsequent sleep; and I have usually judged it better to allow one fit of vomiting to take place before applying the remedy, not only to ensure the *bonâ fide* character of the seizure, but also because I consider it advantageous unless the patient be in a very weak state of health. I only met with one case in which the medicine was refused on account of disagreeable effects, and in this instance, which occurred in the tropics, the patient complained that "it made him feel so hot he would rather be sea-sick."

In conclusion, I hope my experience of the remedy will be supplemented by that of the "sea-going" portion of the profession generally, and that any further facts elicited regarding its action will be duly published.

Thames Ditton.

* More should not be used without medical advice.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

WESTMINSTER HOSPITAL.

CASE OF SEPTICÆMIA; PERIOSTITIS; PERICARDITIS; DEATH IN THREE DAYS.

(Under the care of Mr. COWELL.)

FOR the notes of the following case we are indebted to Mr. W. R. Cheyne, surgical registrar.

A school-boy, named Cornelius S——, eight years of age, was admitted into St. Mark ward on the morning of June 11th, in consequence of supposed injury to the left leg. The only clue to the present illness was the statement that the boy had recently trodden on some glass in a dust-bin and cut one of the toes of his left foot. He had been at school up to 12 o'clock on the previous day (June 10th), when he came home complaining of cramp and pain in the knee; and towards evening he became "light-headed." The boy had previously been quite healthy and active. There was some general enlargement of the left leg and thigh at the time of his admission, with hot surface and some tenderness. In the evening his temperature was 104·6°.

On June 12th the skin was hot, the tongue dry, and the mind wandering. There was great tenderness of the limb, with some increase of swelling, especially in the lower part of the thigh, and the least pressure or movement of the limb produced a scream. The swelling appeared to be due to enlargement of the shafts of the femur and tibia, and no fluctuation could be detected. There was a large pustular bleb on the back of the second toe, the position of the original wound, and there was also an excoriation over the inner malleolus.

June 13th.—The temperature rose this morning to 106·4°. The chest became much engorged during the day, but some relief was afforded by an emetic at night. A bleb, similar

to that on the toe, having formed on the right little finger, was opened, and discharged chiefly blood and serum.

14th.—The patient had been delirious and restless during the night, but at noon to-day the temperature had fallen to 102·4°. The pulse was about 160, and very weak; the tongue was dry. The lungs were still much engorged, and the respiration had become more difficult, but was easier under the influence of a jacket poultice. The left thigh was less swollen, and there was now considerable œdema and redness over the upper third of the tibia. Later in the day the chest symptoms became more urgent, and the child died at 5.35 P.M.

The treatment had been at first acetate of ammonia mixture, then carbonate of ammonia, and later the addition of brandy. The hot-air bath produced some alleviation of the symptoms, and the consequent diaphoresis reduced the temperature.

Autopsy, twenty-two hours after death.—There were a few patches of recent lymph in each pleura, and a small quantity of serum. The lungs were congested, chiefly at bases, but there was no pneumonia. The bronchial tubes contained much mucus, and the lining membrane was highly injected. The pericardium was distended with turbid serum, and its surfaces were completely coated with a thick deposit of lymph. The muscular tissue of the heart and valves was normal. The other organs were quite healthy, and the body was well nourished.

The limb was examined, and the periosteum was found to be stripped completely from the lower third of the shaft of the femur by a thin layer of bloody serum containing a slight admixture of pus. The periosteum of the upper half of the tibia was similarly detached. The knee-joint was not implicated.

WEST LONDON HOSPITAL.

TWO CASES OF RETENTION OF URINE FROM LACERATION OF THE URETHRA; CATHETERISM; GOOD RESULTS.

(Under the care of Mr. TEEVAN.)

CHARLES O'H——, aged seven, was admitted into the hospital on the night of June 18th, suffering from retention of urine. Whilst the lad was riding on the back of a cart he fell off, about 4 P.M., became engaged in an altercation with the driver, and was knocked down and run over. Some blood escaped from the boy's penis, and he was afterwards unable to make water. When the patient was seen by Mr. Teevan the bladder was greatly distended, there were a few bruises on the right hip, and some blood-stains on the shirt. Mr. Teevan tried to introduce a small olivary elastic catheter, but failed. He then took No. 11 (French gauge) metal catheter, and by keeping the instrument well pressed against the roof of the urethra, and tilting up the point with the left forefinger in the rectum, succeeded in passing it into the bladder. When all the urine had flown out he cut off three inches of the shaft of the catheter, and tied the instrument in. Some ecchymosis appeared in the perineum on June 21st, and on the following day Mr. Alderton, the house-surgeon, withdrew the catheter, which had been borne very comfortably. On June 27th and 30th No. 11 metal catheter was passed, and again on July 3rd, on which day all ecchymosis had disappeared from the perineum. On July 7th, 12th, and 14th No. 15 metal was introduced, and on July 15th the boy was discharged quite well, passing a good stream of urine. Mr. Teevan, on July 17th, introduced No. 15 for the first time without the aid of the finger in the rectum. Soft catheters failed every time they were tried.

CASE 2.—Thomas W——, aged thirty, a boot-clicker, was admitted into the hospital on June 20th, suffering from retention of urine. At 11 P.M. the previous night he was kicked in play in the perineum by a comrade who had only his stockings on his feet. The patient experienced much pain at the time, lost about half a pint of blood from the urethra, and was not able afterwards to make water. At 3 P.M. Mr. Teevan took a No. 15 olivary elastic catheter, passed it into the bladder with ease, and drew off a large quantity of urine, but did not leave it in, as the man could not enter the hospital till night. At 7 P.M. the patient was admitted. There was much blood on his shirt, and considerable fulness in the perineum, which was painful when pressed. At 11 P.M. the house-surgeon, Mr. Alderton, tried to pass a metal catheter, as the patient wanted to be relieved, but the instrument would not go. He then took a No. 11 (French gauge) olivary elastic catheter, and, having passed it with ease into the bladder, he drew off the urine and tied the instrument in. The catheter was retained for forty-eight hours, and after its withdrawal the patient had no further attack of retention. On July 1st Mr. Alderton passed No. 15 elastic catheter, and on July 3rd No. 16 was introduced by Mr. Teevan, and on July 7th and 10th No. 17 by Mr. Alderton. On July 12th Mr. Teevan passed No. 18, and the patient left the hospital the following day quite well, and able to pass a good stream of urine, which he had been unable to do for some years, as he had suffered much from stricture. On July 17th the man came to the hospital, when he was instructed in catheterism, and was enabled to introduce No. 18 soft catheter with ease for himself, and without drawing a drop of blood.

Mr. Teevan remarked that there were several points of interest in the above cases. Both patients had met with similar accidents. How was it, then, that metal instruments only could be passed in one instance, whilst in the other elastic catheters only could be introduced? These very facts established the diagnosis of the seat and particular form of laceration that had occurred in each case. M. Auguste Mercier had laid it down that if a laceration or false passage existed in the floor of the deep portion of the urethra, a curved metal catheter ought to be passed, as it could be made to hug the roof of the urethra, and so avoid slipping into the cul de sac in the floor. If, on the contrary, the laceration were in the roof, a straight elastic catheter ought to be introduced, as it always tended, when passed, to keep to the floor of the urethra, and would thus escape becoming locked in any rent in the roof of the canal. Inasmuch as in the case of the boy a metal catheter only could be introduced, it proved that the urethra had been torn in its floor, whilst the fact of an elastic catheter only being able to be passed in the man showed that the urethra had been torn in the roof. But how was it that the roof of the man's urethra had given way rather than the floor, which was the spot where the violence was applied? In all probability the following was the explanation. For some time the man had suffered from stricture in the deep portion of the urethra. Now, as a rule, in that complaint the floor was far more affected than the roof—i.e., the former was much thicker and stronger than the latter; hence, therefore, when the man was struck in the perineum, the weakest portion of the urethra, which was the roof, gave way rather than the floor, which was much stronger. The cases showed that soft and metal catheters had each their spheres of action, though, as a rule, if the urethra were completely torn across, a small olivary catheter would be found more likely than any other instrument to pick up the distal end of the divided canal. The treatment of a lacerated urethra was similar to that of a fractured bone. In each instance a splint was required to keep the ends of the thing torn in apposition, and in the instance of a lacerated urethra, the catheter acted as a splint. The retention of a metal catheter was always objectionable, as it tended to produce ulceration at some spot or other. Hence the less of the instrument that actually projected in the bladder the less chance would there be of cystitis. In order to carry out this object, several inches of the metal introduced in the boy's case had been cut off, leaving no more than was actually necessary to project in the bladder.

SOUTH LONDON OPHTHALMIC HOSPITAL.

TWO UNUSUAL CASES OF INJURIES TO THE EYE.

(Under the care of Mr. EDWARD NETTLESHIP.)

CASE 1. *Severe blow on the eye, followed by lasting damage to sight, without visible changes in any part.*—George S——, aged thirty-seven, a boiler-maker, received a blow from a lump of iron, which broke from some machine he was working at and struck his left eye; the blow was a forcible one, and knocked him down. Within two or three hours of the accident he went to a medical man and had a "drop" put into the eye, and very shortly after this the pupil was observed to be enlarged. No enlargement had been noticed

before the drop was put in. He used the drops at home for several days, and attended the hospital for the first time ten days after the accident. He stated that the eye was "very bloodshot" for a few days, but that there was no swelling of the lids nor any prominence of the eye; indeed, the eye "seemed to be further in than the other, if anything."

On admission (Jan. 9th, 1875), the left pupil was partly dilated, and vision so defective in this eye that he could not see 200 Snellen at 20 ft. With a convex lens, 18 in., vision was raised from $\frac{1}{60}$ to $\frac{2}{40}$; and with + 6 he could see 2 Jaeger. With the right he saw $\frac{2}{12}$ unaided. The fundus of the left (injured) eye was healthy; and there was no trace of ecchymosis or other sign of injury about the eye or eyelid. He believed that the left had been as good as the right till the injury, but could not feel certain of ever having tried the eyes separately to test their sight until after the accident. He was an intelligent man. No treatment ordered.

Jan. 16th.—Vision of left = $\frac{1}{6}$; with convex 18 = $\frac{1}{40}$, very badly. Pupil still partly dilated. Right = $\frac{1}{6}$.

23rd.—Left pupil still slightly larger than normal. Without glasses with right he read 6 Jaeger; with left, 16 Jaeger.

The defect in the right (uninjured) eye depended on hypermetropia only, and he was directed to use + 20 spectacles.

On Feb. 27th sight of left eye still 16 Jaeger. Iodide of potassium in five-grain doses, with ammonia, was ordered thrice daily.

The sight was tried several times between the above date and April 24th, when it was found to be the same. Vision (without glasses): Right = 8 Jaeger; left = 16 Jaeger. At this date the left eye was again carefully examined with the ophthalmoscope after the use of atropine (the pupil having for long regained its ordinary size). No alteration of any kind was found in the fundus; the yellow spot region appeared healthy in the erect image.

Inquiries had been previously made as to syphilis, and his eldest child had been seen; there was no reason to think that he had ever had the disease.

The iodide was now omitted, and tincture of nux vomica prescribed in ten-minim doses, and continued regularly till June 19th, when treatment was discontinued.

On July 10th his sight and refraction were again tried with the following result:—Vision: Right = $\frac{1}{12}$ and 6 Jaeger (without glass); + 20 = $\frac{2}{20}$ perfectly; + 12 = 1 Jaeger. Left = $\frac{1}{12}$ and 16 Jaeger (without glass); + 30 = $\frac{2}{40}$; + 12 = 6 Jaeger badly, sight for near objects not being further improved by glasses higher than + 12.

As astigmatism was suspected, the patient was now directed to use atropine freely to the defective eye for several days, in order to try the refraction once more with accommodation fully paralysed.

On July 24th, the left eye being fully under the influence of atropine, its refraction was again tested, and $\frac{1}{12}$ of hypermetropia was found. With convex 12 sees $\frac{2}{6}$ partly. No astigmatism.

A final and very careful ophthalmoscopic examination was made at the same time, and nothing whatever abnormal was found in the eye. The media were clear and the fundus healthy. The details of the yellow spot region could be well seen by the direct method, and showed nothing unnatural.

Thus it appears that permanent defect of sight has been caused in this eye by the blow, unless we assume that the defect was present before. This fallacy, although it cannot be absolutely set aside by any conclusive statement on the patient's part, is almost negatived by the impossibility of assigning any cause for such previous defect. There was no old corneal opacity, and although both eyes were hypermetropic, there was no squint. It is true that the degree of manifest hypermetropia was not identical in the two eyes, but the degree was lowest in the bad eye, which does not agree with the hypothesis of an original difference of refraction between the two eyes having given rise to suppression of one image and consequent defect of the more hypermetropic eye. Moreover, the lens chosen for near objects was the same for each eye.

It may be suggested as not improbable that the blow caused hæmorrhage into the retina, or beneath it, and that a certain amount of disorganisation of its structure was thus caused, although the blood was afterwards completely absorbed. If this had occurred, however, it would seem unlikely that all traces of the blood should have been removed so soon as ten days after the accident, when the first ophthalmoscopic examination was made. Dr. Berlin, who has lately written on the subject,* considers the defect of sight in many such cases to depend on "transitory irregular astigmatism," due to changes in the lens. He describes haziness of a considerable area of the retina, sometimes with hæmorrhages, as the immediate result of the blow, and states that these changes disappear in as short a time as two or three days, but that some defect of sight remains after the ophthalmoscopic changes have vanished. If we accept this view a sufficient explanation is furnished of the condition of the fundus in the above case ten days after the blow.

CASE 2. *Perforating wound of eye implicating the vitreous, but the lens escaping; simulation of an intraocular tumour.*—Mary R——, aged ten, was unpicking a laced boot with a fork when the prong slipped, jerked up, and wounded the left eye. She was taken to the hospital two days afterwards (July 4th, 1874), when Mr. M'Hardy found a perforating wound of the cornea with hypopyon; the treatment was atropine and a compress. The hypopyon was absorbed, but in other respects the eye did not improve. On the 23rd she was seen, in Mr. Nettleship's absence, by Mr. Carter, who found that a whitish reflex was thrown from behind the transparent lens simulating a gliomatous growth, but that the tension was diminished. He advised immediate excision. Mr. Nettleship saw the child for the first time on the 25th, and noted in substance as follows:—"Left eye: No perception of light; tension diminished; general congestion of sclerotic; eye not tender; no anterior chamber; a radial linear mark to inner side of centre of cornea, to which the iris adheres near its circumference; pupil slightly displaced, but nearly round; lens transparent, but shows a slight mark on centre of anterior surface; a whitish reflex, easily seen in daylight, from the back of the eye; by focal illumination it is seen that towards the circumference the white gives place rather suddenly to red colour, which is most abundant on the inner side of the eye (corresponding to the position of the wound)." An opinion was expressed that the substance behind the lens would probably prove to be lymph and blood in the vitreous, the result of a perforating wound passing close to the edge of the lens without wounding it, rather than a malignant growth. The eyeball was removed by Mr. Nettleship the same day, and, on dissection, a mass of yellow lymph was found behind the lens, quite covering its posterior surface, and lining the entire surface of the ciliary body. The retina was everywhere *in situ*, and, with the exception of slight milkiness, appeared healthy to the unaided eye.

* Zehender's Klin. Monatsbl., 1873; abstract in Ophth. Hosp. Reps., vol. viii., p. 105.

NORTH RIDING INFIRMARY, MIDDLESBOROUGH.

CASE OF STRANGULATED INGUINAL HERNIA; ASPIRATION; RECOVERY.

(Under the care of Mr. GEO. LONGBOTHAM.)

FOR the following notes we are indebted to Mr. W. Stirling Anderson, house-surgeon.

R. W——, aged twenty-eight, was admitted on May 5th, 1875, suffering from symptoms of strangulated hernia. On the evening of the 4th he was engaged in his usual occupation, that of a labourer at a blast furnace, and about 8 o'clock strained himself severely when lifting some heavy weights. He continued to work on, without any pain or uneasiness, till 9 o'clock, at which hour his shift went off duty, but shortly after ceasing labour he experienced cramps in the belly. On looking at himself he found a swelling in his scrotum. He was visited at his home by a surgeon, to whom he did not say a word about the scrotal swelling, as there were several people in the room. After midnight he began to complain of very great pain in the swelling and lower part of the belly, vomiting setting in about the same time. The vomiting proving persistent, the medical attendant was sent for, and he endeavoured to reduce the swelling

by taxis, but without avail. In the morning, about 8 o'clock, he was put under chloroform and the taxis again employed, but with no better effect. He was admitted into the hospital at 11 A.M.

On examination, a large inguinal hernia was found to occupy the left scrotal region. The tumour was very tense and red, showing at its neck a very decided constriction, just at the seat of the external ring. The patient having been put under chloroform, taxis was once more resorted to to effect reduction, but, proving futile, was not persevered in, as the state of the parts did not warrant this. The No. 2 needle of a pneumatic aspirator was introduced into the tumour, and four ounces of darkish serous fluid withdrawn. Mr. Longbotham then passed his forefinger up behind the cord so as to dilate the external ring with the canal above, and gently employing the taxis had the satisfaction to feel the tumour yield, and disappear within the abdominal cavity. A pad was adjusted, and one drachm of the solution of hydrochlorate of morphia was given.—Same day, 9.30 P.M.: Perfectly quiet; no pain complained of; he only has some uneasiness in inguinal canal on turning. Slops ordered. Temperature 98·4°; pulse 64.

May 6th.—Morning: Patient feels quite well this morning. Temperature 98·8°; pulse 64.—9.30 P.M.: Temperature 98·6°; pulse 76.

7th.—1 P.M.: Is quite well, and complains merely of being kept in bed. Temperature 98·4°; pulse 60.

Progress continued in the same satisfactory way, and on the morning of the 11th he had a spontaneous motion of his bowels. They were moved on the following day, also on the 13th, on which day he was discharged. At this time there was no tendency to recurrence of tumour even on coughing.

Reviews and Notices of Books.

A Manual of Histology. By Prof. S. STRICKER. American Translation. Edited by ALBERT H. BUCK, Assistant Aural Surgeon to the New York Eye and Ear Infirmary. New York: W. Wood and Co. London: Trübner and Co. 1872.

STRICKER'S Manual of Histology has taken such an established position as the text-book on this subject, and has become so well known in England through the excellent translation of Mr. Henry Power, published by the New Sydenham Society, that it may seem almost superfluous to call attention to an American edition published so long ago as 1872. But although well known in America, we understand that the work has been only recently introduced into England, and it deserves notice on other grounds.

The first part of this edition is simply a reprint of Mr. Power's translation, constituting the first volume of the edition of the Sydenham Society. The remainder of the work has been retranslated by Mr. Buck and his American coadjutors. Mr. Buck's work includes the articles on the liver, the larynx and trachea, the lungs, kidneys, supra-renal capsules, ovary, serous membranes, organs of taste, and the development of the simple tissues. The articles on the urinary bladder and testicle are translated by Ed. L. Keyes; those on the mammary gland, male and female external genital organs, and uterus, and on the membranous labyrinth and the synovial membranes by Thomas E. Salterthwaite; the organ of vision by Henry C. Eno; and the other minor articles have been entrusted to Drs. F. Delafield, Lucius D. Bulkley, and J. Orme Green. Of the articles on the nervous system those on the spinal cord and sympathetic nervous system were undertaken by Dr. Edward C. Seguin, whilst to Dr. James J. Putnam fell the lot of translating Meynert's article on the brain of mammals.

The translations are for the most part exceedingly good and clear, and whilst adhering to the original text, they are free from German idioms and are neither laboured nor obscure. The advantage of the plan of entrusting the translations of articles to gentlemen specially acquainted with subjects treated of is very apparent, enabling the translator to give the equivalent terms commonly in use, a great gain when we consider how much words tend to become specialised in their application. In some cases a desire for exactness has led to a translation of the *ipsissima verba* used in the German, instead of the substitution of the English equivalent; thus we find the *fenestrum ovale* called the "oval window," a translation which, though graphic, seems scarcely less advisable than that of the *foramen rotundum* as the "round hole." A similar inaccuracy is found at the heading of each article, where the abode of the author is designated by "*in*" instead of "*at*"—thus "Th. W. Engelmann, *in* Utrecht," which is German, not English.

We naturally turned to Meynert's article on the Brain of Mammals as a crucial test of the value of the translation, but here we found that the American editor had been at a great advantage as compared with the English. The translation was entrusted, at Prof. Meynert's special request, to Dr. J. F. Putnam, who was at the time a pupil in Meynert's laboratory, and well acquainted with his researches, and in all doubtful points referred to the author for information. Bearing in mind the difficulty experienced by Mr. Power, aided by Drs. Payne and Broadbent, in translating or even understanding some portions of this obscure article, and the dictum of a German physiologist, that "es muss erst Deutsches gemacht werden," we were prepared for a similar experience in the American translation; but we are not surprised to find that Dr. Putnam found it desirable to act the part of an interpreter rather than merely that of a translator. It would, indeed, have been impossible to do otherwise, if the author's views were to be represented, and Prof. Meynert may be congratulated on having found so able an exposition of his researches, such as could only have been undertaken by someone thoroughly acquainted with his preparations. Otherwise there was some danger lest his observations should share the fate of Jean Paul Richter's philosophy, whose author, when asked its meaning, said (to quote Hans Breitmann), "Gott im Himmel only weiss, for I have quite forgot." It is satisfactory to have such a guarantee that Dr. Putnam's translation really gives Meynert's views, for we frequently find that a single word, apparently with little meaning, and which has been considered as such by the former translators, is expanded into a long explanatory sentence by Dr. Putnam, with the effect of completely changing the meaning of the whole context. The result is that Dr. Putnam's translation, whilst more connected and intelligible, is much longer than that of the Sydenham Society. We give a passage taken at random from the two translations, of which Mr. Power's may be taken to be an accurate translation of the original:—

SYD. SOC. TRANS.

The tegmental origin of the antero-lateral column permits distinct areas to be distinguished in two different directions; first, those placed one behind the other, which, proceeding from the grey floor, are (1) the *posterior longitudinal fasciculi*; (2) the (middle) motor area; (3) the fillet (*Schleifenschichte*, Reichert); and, secondly, those in lateral juxtaposition, which are (1) the region of the *anterior column*, forming the territory adjacent to the raphé that is bounded laterally in the pons by the roots

DR. PUTNAM.

Thus constituted, the surface obtained by cross section of the collective groups of fibres conveyed by the tegmentum to the antero-lateral spinal column may be divided, for purpose of description, into different districts, as follows. Proceeding forwards from the grey floor of the fourth ventricle, three such districts, lying *one behind the other*, may be distinguished. The first contains the *posterior longitudinal fasciculus*; the second, the (middle) *motor region*; the third, the *stratum lemnisci* (Reichert). Again, in proceeding from the median line outwards, there may be distinguished two such districts lying

of the nervus abducens, and in the oblongata by the roots of the hypoglossus; and (2) the region of the lateral column, extending from the boundary as far as to the ascending roots of the fifth, in which also the *pes* of the *fillet* is enclosed. (*Fuss de Schleife*, Stilling.)

side by side, the first being occupied by the groups of fibres destined to form the anterior spinal column, a region which borders on the median raphé, and is bounded outwardly, in the pons, by the roots of the nervus abducens; the second by the group of fibres destined for the *lateral column*. The latter district borders on the former, and extends outwards as far as the ascending roof of the fifth pair, enclosing therefore the *pes lemnisci*. (Stilling.)

It is obvious that Dr. Putnam's translation should rather be called a paraphrase or exegesis, and it might well be re-translated into German to replace the original article.

Of the general get-up of the work we cannot speak too highly; the type is clear, and there are few press errors, and the illustrations throughout are especially well engraved. The only objection is the unwieldy size of the book, which is complete in one volume, and can therefore hardly be called a "handbook" as regards its portability.

An Introduction to Pathology and Morbid Anatomy. By T. HENRY GREEN, M.D. Lond. Third Edition. pp. 424. London: Renshaw. 1875.

THE author of this valuable little work is to be congratulated on the demand for it that has already called forth a third edition. It affords gratifying testimony to its value and popularity as a text-book. It possesses, further, all those qualities which render such a book popular among students. It is written in clear and concise language; it is confined almost entirely to statements of fact, theoretical views being for the most part kept out of sight, and it is, above all, fully and exceedingly well illustrated. The number of illustrations, indeed, has increased rapidly with each addition, and we perceive in the present edition that several woodcuts have been replaced by new and original drawings. The author has also bestowed a careful revision on the text, adding such new matter as was necessary to keep the work up to a level with modern pathological research, rearranging and rewriting some chapters. Among other new matter we notice a chapter on tissue-changes in pyrexia; a brief account of pulmonary emphysema under the head of atrophy; the pathology of "surgical kidney," &c. Some additions have also been made to that valuable chapter of practical remarks on the preparation and mounting of specimens, which was first introduced into the second edition.

The Monthly Microscopical Journal. August 1st, 1875. No. LXXX.

This number contains several articles of unusual interest. Dr. Braithwaite continues his account of the Bog-mosses (sphagna), with details of the Sphagnum portoricense and Sphagnum macrophyllum. The Rev. D. Edwardes, after alluding to the various units of linear measurement that have been proposed, as the quadrant of the meridian, the length of a pendulum vibrating seconds, the diameter of a sphere of the same volume as the earth, and pointing out the objections to all, suggests that the wave length of orange light in vacuo, which would give 1,500,000 wave lengths in one yard, would prove an excellent standard. What do the physicists say to it? To this succeeds a short and rather amusing paper on the Microscope and its Misinterpretations, by John Michels, chiefly bearing on the differing descriptions that have been given of the Podura scale. Dr. Beatty describes a mode of double staining wood and other microscopical sections, founded on the fact that benzole fixes the aniline colours. Dr. Martyn has a good paper on Conjoined Epithelium, particularly referring to the "prickband ribbed" cells of German writers. Dr. Bastian's address delivered before the Pathological Society of London on the Microscopic Germ Theory of Disease is reprinted *in extenso*. Dr. Fleming describes a modification of Rutherford's freezing microtome. Lastly, Dr. Lionel Beale has a paper on the Origin of Life.

IMPERFECT MEDICAL QUALIFICATION.

SOME years ago it was pointed out by a contemporary that a large proportion of the practitioners of the country whose names were on the Medical Register were possessed of only one qualification. It is very unsatisfactory to have to report that the same state of matters seems to continue. In accordance with the standing orders of the General Medical Council, the Registrar has recently issued the list of those gentlemen who have registered in the first six months of the year, giving the nature and date of their qualifications, and the date of their registration. The list of new registrations is very large—namely, 419. This number is much in excess of that in any corresponding period, and shows that if there is not an increasing number of practitioners, there is at least an increasing conviction of the advantages of being registered. Clearly, for legal purposes, a man can scarcely be said to have qualifications until they are registered. The fees accruing to the Council for this batch of registrations will amount to the sum of £2095. But in our opinion the most interesting point in this list is the large proportion of gentlemen who have but one qualification to register. Thus, out of a total of 419 registrations, 164 are registered with *one* qualification only—viz., Member Royal College of Surgeons of England, 101; Licentiate of the Society of Apothecaries, London, 25; Lic. Royal Coll. Phys., Edin., 3; Lic. Royal Coll. Surg., Edin., 10; Lic. Fac. Phys. Sur., Glas., 8; Univ. of Glas., 3; Lic. Royal Coll. Sur., Irel., 6; Apothecaries' Hall of Dublin, 4; University of Dublin, 1; Queen's University in Ireland, 3. From this it appears that two-fifths of those newly registered are unqualified in regard to one branch of the profession. The single qualification is in the large majority of cases a surgical qualification. Thus of the 164 single qualifications 125 were surgical, as against 39 medical. The bulk of medical practice is made up of medical cases, for attendance on which gentlemen with surgical qualifications are not enabled to recover. If any facts could give the death blow to the present system of licensing practitioners, or a stimulus to the movement for a one-portal system, it would be such facts as those we now publish.

THE WINTER SESSION AT THE LONDON MEDICAL SCHOOLS.

THE metropolitan medical schools will open on the 1st of October, with the exception of Westminster Hospital and University College, at which institutions the session commences on the 4th of the month. The usual introductory addresses will be delivered as follows:—At St. Mary's by Dr. John Randall, at St. Thomas's by Dr. Payne, at the Westminster by Mr. Davy, at St. George's by Dr. Robert Barnes, at the London by Dr. Bathurst Woodman, at the Charing-cross by Mr. Fairlie Clarke, at King's College by Professor Curnow, at University College by Professor Corfield, at the Middlesex by Mr. Thompson Lowne, and at Guy's by Dr. Stevenson.

As is well known, the custom of delivering an introductory address at St. Bartholomew's Hospital has been discontinued for some years. The London School of Dental Surgery will commence its session on October 4th by the distribution of prizes, on which occasion Sir James Paget is expected to attend.

THE LANCET.

LONDON: SATURDAY, AUGUST 21, 1875.

ALTHOUGH opinions were at first greatly divided as to the significance and importance of the recent meeting of the British Medical Association at Edinburgh, the final decision seems to be that as far as the business of the sections and the general arrangements at Edinburgh itself were concerned matters were well enough, but as far as concerned the management of the general business of the Association there was great room for improvement. Whatever was good and commendable has been already sufficiently dwelt on in our columns and elsewhere, so that it may not be uninteresting or unprofitable to take a different view, and to consider some of the lessons which the experience of the meetings affords.

In the first place, the election of Sir ROBERT CHRISTISON to the presidential chair was a happy circumstance, and went far to allay suspicion and to appease many of those who had felt aggrieved at the manner in which they had been treated by the Committee of the Council. To those, indeed, who did not know that some members of the professorial staff of the University had at one time positively declined to take part in the business of the Association, on the ground that great want of respect had been shown to certain of their colleagues, no sign of resentment or of want of sympathy was apparent, even at the first general meeting. Everything calculated to give at least an outward appearance of unanimity seemed to have been arranged, and very efficient means had been taken to avoid the possibility of a discussion. Few persons, for instance, knew why the Professor of Medicine in the University of Edinburgh was not present at any of the meetings of the Association, and fewer still could conjecture why the presidency of the Medicine Section was given to a London physician who is not attached to a tutorial hospital.

Evidence was not, however, long wanting that the Council of the Association regard themselves as irresponsible representatives of the Association. At the conclusion of Sir ROBERT CHRISTISON'S long but in many respects excellent address—which we shall notice on a future occasion—the first general meeting was held. As we have already announced, at this meeting, which probably did not comprise more than fifty members beyond those who were also members of the Council, the most important business of the whole year was transacted in a manner altogether extraordinary. Instead of adjourning the meeting till some time when they could be certain of a full attendance, the Council, contrary to the wishes of those present not of their own body, actually voted for the adoption of their own report, unread. So harmoniously did they work together that, by the aid of a few votes from the non-official members, they were able to override the thirty-one independent members, who desired that the report be either read at once or printed for circulation among the members, and discussed next day or at any other more convenient time. Such a proceeding as that we have referred to may have been legal, but can scarcely be said to be exactly constitutional. The Council are the responsible representatives of the Association, but their responsibility is certainly nullified or reduced to a minimum if they have the power to vote for the adoption of their own report, and by that means to contravene, as they may do in the small meeting, the wishes and desires of the members of the Association. If such an undesirable course were again adopted, it would not be surprising to find the members determined to undertake the election of members of the Council, which seems at present to be self-elective, and in future to keep a very strict watch on their proceedings.

Scarcely less remarkable than the adoption of the report of the Council, unread, was the adoption, under identical conditions, of the remodelled bye-laws of the Association. It was urged by Dr. SIBSON that the bye-laws had been carefully considered by the Committee; so that, although there was much that was undesirable, and even objectionable, he begged that those present would waive all discussion and accept *en bloc* the bye-laws of which, under the circumstances, they knew nothing. When, however, a protest was made that a similar argument had been made use of to avoid discussion of the altered bye-laws at the private meeting of the Council in the morning, Dr. SIBSON admitted that, although he wished to avoid any discussion of the bye-laws at that meeting, there were some things that would require alteration, and that some part of what had been done would before long have to be undone. There would, he pointed out, be plenty of opportunities to discuss the bye-laws next year, and it was competent to anyone, by giving due notice, to propose the alteration of the existing bye-laws. After this procedure had received the strong recommendation of Mr. HUSBAND, of York, and Dr. CARPENTER, of Croydon, it was finally accepted by the members, notwithstanding the vigorous and manly protest of Dr. CHADWICK.

Another incident occurred at the first general meeting which must be mentioned here, as it affords a good illustration of the manner in which the Council does its work. Before the report was adopted, Mr. O. PEMBERTON, of Birmingham, stated that he was desirous of calling the attention of the members to the fact that on the list of names of those who were going to read papers there were the names of two ladies, who, he presumed, were members of the Association. Dr. SIBSON and Mr. HUSBAND observed that, as there was nothing about the admission of lady members in the report, the question could not at that time properly be discussed. Mr. PEMBERTON replied that he would read the terms of the motion he intended to make, and then it would be seen whether he was out of order. The motion was as follows:—"That it be an instruction to the secretary, between now and the next annual meeting, to issue a circular addressed to every member of the Association, requesting an opinion 'Yes' or 'No' as to the admission of female practitioners to membership." The President at once stated that he should not allow the subject to be moved. The matter then dropped; there was, however, a tacit but distinct understanding that Mr.

PEMBERTON'S motion should be brought forward at the next general meeting. Accordingly, next morning Dr. FALCONER, who occupied the chair for a few moments in the absence of Sir ROBERT CHRISTISON, promised Mr. PEMBERTON that he should have an opportunity of bringing his motion forward as soon as the business on the Agenda paper had been transacted. In due time Mr. PEMBERTON rose, and, in proposing the motion of which he had given notice, said that he did not know how the ladies referred to had been made members of the Association—whether by a vote of the Committee of Council or by the vote of any branch; but he thought that on such a question the sense of the Association should have been previously taken. Without saying whether the matter commended itself to his judgment or not, he pointed out that the rules of the Association speak of the members invariably as of the male sex. Dr. MARSHALL, of Clifton, in seconding the motion, reminded the members that they have, or at least should have, some control over the management of the business of the Association, and that they should be prepared at the annual meetings to devote some time to the transaction of business, as well as to mere complimentary speeches. He astonished not a little the majority of those present at the second general meeting by informing them that during their absence on the previous evening the report, which few had read or knew anything about, had been passed. The members were, he alleged, too willing to leave their affairs to be conducted by the Committee of Council; and the admission of ladies to the membership of the Association unknown to the members generally was, he hinted, sufficient proof that some kind of control or check should be kept on the action of the Council. By whatever means the ladies had been appointed, a great liberty had been taken with the rules of the Association. An innovation so important should not have been made without first ascertaining the feeling of the entire Association. After Dr. A. P. STEWART, a member of the Council, had informed the audience that it was he who had had the pleasure of proposing Mrs. GARRETT-ANDERSON, one of the ladies referred to, and that that lady had been duly elected by the Metropolitan Counties Branch, Dr. CARPENTER, of Croydon, who on the previous evening had advocated the adoption without discussion of the altered bye-laws, submitted that, according to those very bye-laws, Mr. PEMBERTON must give at least seven days' notice of his motion, and he even went so far as to move that Mr. PEMBERTON be requested to give due notice of his motion. This amendment, which necessarily precluded the consideration at that meeting of the admission of ladies to membership, was seconded by Mr. E. HART, who spoke of the disabilities that the members would impose upon themselves by adopting Mr. PEMBERTON'S resolution, as they would require the sanction of the President of the Board of Trade to empower them to reject ladies. Fortunately, however, the attendance of the members at this meeting was large, and questions could not be disposed of as they had been the previous evening. The audience showed most unmistakably that they had formed very strong opinions on the matter,—that, as the Council had practised one irregularity, they would make another, and for once override their bye-laws. When Sir R. CHRISTISON observed that Mr. PEMBERTON'S motion was in order, and Dr. STEELE had remarked that the Association could surely give instructions to its secretary without seven days' notice of the motion, Mr. HART withdrew the seconding of the amendment. The result was that, when Mr. PEMBERTON'S motion was put to the meeting, it was carried with only one dissentient.

The business at the other general meetings was all of less interesting character, and did not call forth much discussion. Dr. BEGBIE'S address has already been noticed, and in another column will be found some remarks on Professor RUTHERFORD'S Address in Physiology. It remains, therefore, to consider briefly Mr. SPENCE'S excellent address. Here let us say that if Mr. SPENCE had previously consulted the wishes of the majority of the members of the Association he could not have succeeded better in meeting their views. Large numbers of persons had attended Mr. LISTER'S demonstrations on antiseptic surgery, and there was a widely expressed desire to hear something on the other side, and it was felt that the most competent person to offer an opinion would be someone connected with the Edinburgh Infirmary who did not practise antiseptic surgery. Mr. SPENCE'S address was therefore gladly received. We need only refer to the abstract of Mr. SPENCE'S address that we published last week to show what is the opinion of the Professor of Surgery at the Edinburgh University of the value and importance of antiseptic dressings.

It will be seen that we have in our remarks dwelt more on the political than on the professional aspect of the British Medical Association. We have, in no captious spirit, pointed out a few failings and shortcomings which everyone who has the welfare and prosperity of the Association really at heart must desire to have put right. Under proper management the British Medical Association is capable of becoming a great power for the political and social advancement of the profession; and if the governing authorities can succeed in convincing their constituents that they seek only to carry out the wishes of the entire Association, these annual meetings will become valuable means of promoting the union and good fellowship that should exist among the members of an honourable profession like that of medicine.

ALTHOUGH much has been written concerning the symptomatic phenomena of heatstroke—better known under its less appropriate and more limited name of "sunstroke,"—yet but little advance has been made with regard to the pathological changes at the root of the affection. This is, doubtless, in great measure owing to the frequently sudden fatality of the worst cases, and their occurrence under conditions which render careful and accurate post-mortem investigation impossible. Yet hardly a summer passes—if not in this country, at least on the Continent, and far more in the United States and the tropics—without some cases of this nature occurring. We propose, therefore, to direct attention to the most recent attempt to explain the symptomatology by a rational interpretation of the changes detected after death, which has been made by Professor ARNDT, of Greifswald, in VIRCHOW'S *Archiv* (vol. lxiv., p. 15). Although much of his argument is based upon assumptions and not upon actual histological proof, yet,

taken as a whole, it cannot but be considered as of certain value, and worthy of passing notice.

The groundwork of Professor ARNDT's contribution is but small—viz., the records of three autopsies made in the year 1870 upon fatal cases that occurred in the 3rd Army Corps of the German Army then stationed at Berlin. The literature of this subject is full of the records of cases occurring in military life, where the too rigid adhesion to unsuitable modes of clothing and discipline has lain at the root of the mischief. Of this our own Indian Army affords many sad examples. In the present case three divisions of the corps mentioned marched out on exercise (*Uebungsmarsch*) from headquarters at the end of July, 1870. The march lasted about five hours, inclusive of two halts; but the day was sultry in the extreme, and the route lay through the arid sandy plains surrounding the German metropolis. The troops were insufficiently supplied with water; and in spite of the relaxation from heavy marching order which was permitted as soon as a few men showed signs of distress, many succumbed to the effects of the heat before the day's march was over. Of the number attacked (it is not stated how many) seven died; and of these, as above mentioned, three supplied Dr. ARNDT with the material of his research. The most striking pathological changes were fluidity of the blood and engorgement of all the larger systemic and pulmonary vessels, associated with marked anæmia of the parenchyma of the viscera—brain, liver, kidneys, &c. Thus side by side with engorgement of the coronary and cardiac vessels, and even subperi- and endo-cardial ecchymoses, the muscular tissue of the heart was pale and swollen. The brain was moist, its ventricles distended with fluid, convolutions flattened, and sulci obliterated; and yet withal the veins and sinuses of its membranes were full of blood. ARNDT remarks that this condition of brain has been erroneously described as hyperæmic, whereas the nervous substance was really in a high degree anæmic. The condition of the other viscera was similar. There was the same overfilling of the larger vessels of the liver and kidneys, while the parenchyma was pale, and the organs notably enlarged. The intestinal and vesical mucous membrane was equally pallid; but the condition of the mesenteric vessels was not noted. In the lungs only did the hyperæmia seem to prevail uniformly. Upon what did this "parenchymatous anæmia" depend? This question was readily answered as to the liver, kidneys, and muscle,—all of which presented the characters of the condition known as "cloudy swelling." The brain, however, presented rather the condition of œdema; but was it here even mere œdema? Dr. ARNDT thinks not; and judging from the analogy presented by the other viscera, he concludes that in the brain also there was a similar condition of "cloudy swelling" of the cellular elements—a condition which he believes to be of an inflammatory rather than of a degenerative nature.

Now this condition of muscles and viscera, it is well known, is found to its most marked extent in infectious diseases—as typhus, typhoid, variola, pyæmia, &c.; and in all such cases, be it observed, there are two factors at work—viz., an altered blood condition and high pyrexia. It is met with in its highest degree in those cases in which the second factor predominates, the changes being most marked in those patients who have succumbed at the height of the febrile process. Adverting then to the important place taken by rise in the temperature of the body in heatstroke, the writer gives full details of the affection in its different degrees of intensity. Even in the mildest cases—those most readily subdued by treatment—the temperature of the body may rise from 100° to 104° F. or more; this is accompanied by rise in the rate of the pulse and respiration, increase in secretion of sweat (and here he differs from other authorities, for he avers that only in the severest examples is the skin dry), thirst, muscæ volitantes, tinnitus aurium, oppression at the chest, &c. The transient nature of such cases and their ready relief are enough to show that grave organic mischief is not set up here. But in less favourable cases the temperature rises to 105° or 107°, the pulse to 140, and the respirations to 40, with aggravation of all the symptoms, together with headache, convulsions, and other nervous disturbances. From such an attack recovery is tedious, and permanent mental weakness may be left behind. Finally, in the worst cases of all (those which Dr. MOREHEAD has classed under the head of "cardiac" as distinguished from the "cerebro-spinal" form), the skin becomes very dry and pungently hot, the temperature may reach 111°, the pulsations of the heart are too rapid to count, its sounds are inaudible, and death may occur suddenly from syncope, or after a slight rally the patient may relapse and die comatose. In cases, then, either of the second or third degree, it is evident that organic changes have been set up, so that, even if recovery ensue, their effects are left behind.

Analysing these facts, ARNDT attempts to explain them from the morbid states found after death. The fluid dark blood has been found by OBERNEIER to be of acid reaction and to contain an excess of urea. Whether this acidity be due to an excess of carbonic or of lactic acid is a matter of question; but it is enough to know that here also, as in septic diseases, the blood is charged with noxious products. However, it is probable that here this is of minor importance to the rise in the temperature of the body, which is the initial fact, and one wholly in accordance with recent experimental research upon the effects of high temperature upon the bodily organism; for in these experiments the parenchymatous changes were such as described here—viz., "cloudy swelling"; and, with facts such as these, we are forced to admit that a high rate of temperature is a most grave factor in disease. In heatstroke, then, the rise in the bodily temperature is the primary act; it may lead to sudden death by setting up incipient myocarditis; or, if the patient survive a little, all the organs more or less bear evidence of a parenchymatous change, as shown by "cloudy swelling" of their elements—a process maintained by the morbid blood. On this hypothesis, too, in cases of recovery, may be explained the change that renders the brain a *locus minoris resistantiæ*, thus rendering the subject of sunstroke prone to the development of insanity, epilepsy, or other neurosis.

IT would be comforting if it were possible to accept Mr. DISRAELI's definition of "Sanitary Reform." We refer to the interpretation of that not unfamiliar phrase offered by the Prime Minister in his "summing-up," at the Mansion

House, towards the close of a session which he was pleased to characterise as "crucial," and charged with the onerous duty of "redeeming your pledges." It is to be deprecated that any question or difference of opinion should arise as to the nature of those pledges. If one party to a contract claims, while the other declines, to hold it discharged, there is commonly an end of mutual confidence; and it cannot be denied that a contract having very direct relation to this question of sanitary reform was entered into between the Conservative party and the country when the former was raised to power. We should, therefore, be unfeignedly sorry to find that we had been misled by the glib use of a phrase which Mr. DISRAELI somewhat tardily complains is "so little understood." Still we cannot forget that what the medical profession, and probably the public, understood by sanitary reform, was something incomparably better defined than "most of the civilising influences of humanity." Sanitary reform is undoubtedly one, perhaps not the least potent, of the civilising influences of humanity; but it does not follow that a Government, which in some vague sort of way strives to foster civilising influences, can claim credit for inaugurating an era of sanitary reform. Nevertheless, such an era we believe the country expected when, after having for five years strongly and studiously "impressed upon the public mind that sanitary reform was the great object and need of the day," the propounders of this gracious doctrine undertook to demonstrate their theory in practice. Looking to the sanitary reforms already effected, the real business can scarcely be said to have begun. It is, therefore, almost irritating to be told that the phrase upon which the whole undertaking hinges is "little understood"; that, in point of fact, it is susceptible of a more diffuse construction than simple folk supposed; and that instead of strong measures for the protection of the public health, a visitation of good intentions must be held to redeem the pledge and satisfy the contract.

A less discouraging view of the political situation seems impossible, because the session which has just closed is pointedly declared to have been "a crucial one," specially devoted to redeeming the pledges given by Ministers before taking office. The Cabinet reviews the labours of the last six months, expressly in this light, with complacency and even self-gratulation. This is not the time, nor are we disposed, to be unthankful for small mercies, provided always that they are not paraded as substitutes for the larger benefits we have a right to demand. We do not under-estimate the difficulties with which the Government has had to contend. We recognise and make full allowance for the general inertia produced by exhaustion. But looking at the results of a year's labour, not too critically, and frankly accepting them as the products of a sincere endeavour, it is impossible not to be disconcerted at the pitiful dimensions of the output, and still more seriously dismayed by the lack of stedfast purpose the work accomplished betrays. When we are asked to regard it as the redemption of a pledge to resolutely and effectually prosecute sanitary reform, the feeling of dissatisfaction changes to one of chagrin.

The session opened well. The QUEEN'S speech gave prominence to Bills projected for the improvement of the dwellings of the working classes in large towns, for the consolidation and amendment of the Sanitary Laws, and for the prevention of the pollution of rivers. The business of the opening night was of happy augury. On the 13th of February we observed with satisfaction that "the President of the Local Government Board gave notice of his intention to introduce a Bill to repeal the Adulteration of Food Acts, and make better provision for the sale of food and drugs in a pure state. ..... Not less remarkable than the prominence thus assigned to sanitary measures in the work of the session was the tone in which these measures were referred to by various speakers in the House of Commons." We were prompted to say—"The sanitary measures proposed show that the Prime Minister is about to give effect in Parliament to those principles of social legislation which he announced from the hustings; and the masterly statement of Mr. CROSS in introducing the first of the measures gives hope that the sanitary work of the Government will be conceived and furthered with due regard to its gravity and perplexity."

Hope told a flattering tale. The original conception was well enough. The preliminary sketches presented to Parliament and laid before the country, if not faultless, were fair; their colouring was firm, and even captivating. The severest, the most captious, critics acknowledged the skill of the artist. A feeling of calm and trustful contentment possessed the public mind. But when the time came to produce the finished pictures, wrought on the lines and in the spirit of the approved designs, some were too far from completion to be exhibited at all, or, on frivolous pretence of want of space—as in the case of the Rivers Pollution Bill,—were quickly lumbered out of sight; while others, what with lowering high lights, picking out shadows, blending half-tints, and generally scumbling over marked features and striking contrasts, had wholly lost their character and effect. Perhaps the most successful achievement was the consolidation of Sanitary Laws—the idea of *amendment* had practically dropped out,—but this was of the nature of a catalogue, rather than an original art work. We have given the Government full credit for their Artisans' Dwellings Act, and are prepared to cherish the most generous hope as to its success. For the rest, bold, terse Bills became attenuated and feeble Acts; prohibitory restrictions dwindled into permissions to refrain from wrong-doing, or at best facilities for doing right. In some instances, notoriously that of the Food and Drugs Bill, matters have been muddled instead of being mended. The strong arm of the law, which threatened to strike down and crush offences, was adroitly limited to showing its prowess by killing flies on the whole skins of offenders. Concession extracted the sting from compulsion; and SAMSON, shorn of his locks and with his eyes put out, was left leaning against the door-posts, ready to be crushed by the fall of the house he had promised to bring down on the heads of his enemies. All this may have been interesting and significant from a party-political point of view, but it was infinitely aggravating to the common sense and earnestness of an anxious people. The grievances of which the nation had long complained and for which it looked hopefully for redress, the evils under which it groaned and

chafed, the perils by which its life was beset, were real, and would not admit of pleasant trifling. If, already, a feeling of fretful discontent has sprung up in the stead of placid expectancy, if peevish distrust has begun to take the place of respectful confidence, the Government has only itself to thank for the untoward change in public sentiment. Its misfortunes have been of its own making. It has suffered little from the wit and nothing from the energy of political opponents. Five years of unremitting endeavour to impress upon the public mind that sanitary reform is the great object and need of the day could not be without its effect. The disappointment occasioned by the discovery that a pledge to compass that object and satisfy that need is to be redeemed by performances little more than perfunctory must be proportioned to the depth of the impression of need and urgency intentionally produced.

It seems inexplicable that the Government should seriously elect to be judged by the session so strangely concluded. We can understand Ministers making the best of what they cannot amend; and if the attempt to place their achievements in the most favourable light, and to throw a veil over their failures, were undertaken in a spirit of modesty—if they pleaded obstacles to progress and prayed time for the fulfilment of their promises, the situation would engage sympathy, and might even command respect. But when they point triumphantly to the past as "crucial," when they claim the acknowledgment that they have redeemed their pledges, it is impossible to feel otherwise than disheartened and perplexed. The very ground of hopefulness is cut from under our feet. To tell a nation you know its objects better than it knows them itself, to expend time and argument in impressing it with the deepest and keenest sense of its needs, to hold out the most brilliant promises of redress—if you are entrusted with its confidence,—and when you grasp the reins of government to do next to nothing, and that little indifferently; then to turn round and protest you have redeemed your pledges, which were "little understood," is more likely to ruin the prospects of a Ministry, be it never so fair-spoken, than a world of mere stupidity or an age of simple inaction. Great expectations unrealised readily give rise to great revenges. To repeat the experiment of generous undertakings without a fixed determination to discharge the obligation in full and at all costs would be to dare the disgust as well as the disappointment of an indignant people. Nothing short of a complete and effectual remedy for the social and sanitary evils exposed will now suffice to allay the anxieties or quiet the importunities of a nation growing daily more intelligently solicitous about its physical and mental health. It is too late to play with sanitary reform, and the time has gone by when the public mind stood in need of special enlightenment as to what that includes and implies. True wisdom will hasten to blot out the declaration that the session which closed on the 13th inst. was "a crucial one," and a discreet "political conscience" must defer to a more propitious moment the boast of having successfully performed "the operation known as 'redeeming your pledges.'"

DR. WM. RUTHERFORD in his recent address in Physiology—or, as it is still designated in the medical schools of Scotland, the Institutes of Medicine—grappled with the question of Vivisection. He was not content with touching upon a subject which, in his opinion, only required to be firmly grasped in order to deprive it of any injurious effects on the future of physiological and medical science. Dr. RUTHERFORD maintains that a great and deplorable error was committed when the unreasonable clamour of the anti-vivisectionists was met in a spirit of compromise, instead of one of stern resistance. Speaking to the members of the British Medical Association, he said that he need scarcely remind them that physiology is an experimental science. Apart from experiments which are the result of artifice, disease and accident are constantly bringing about conditions which partake of the nature of experiments, and are sometimes of great physiological significance. Still, this teaching of disease and accident leads us but a short way, and the pursuit of physiological truth by their aid is often an uncertain, devious, and complicated method. It is excessively difficult to analyse the effects of disease, and to separate the phenomena from one another sufficiently to attribute them to their respective pathological causes, or to precisely apportion the share which this or that structural change has had in their production. On the other hand, the difficult task of pathological analysis grows less as physiology advances. Dr. RUTHERFORD was able to draw a truthful and effective contrast between the very imperfect and indirect theoretical method of physiological instruction in the past and that by demonstration and experiment at the present time. No one can doubt for a moment that the reasoning, critical faculties are educated in the proper sense of the term, and that far more real, definite, practical knowledge is acquired, where men are trained to see and examine for themselves the experimental evidence on which such knowledge rests. Dr. RUTHERFORD maintains that this critical and definite knowledge regarding animal mechanism cannot be attained unless students be shown experiments on living animals; and he strongly condemns the pretensions of anti-vivisectionists, their unceasing clamour, and the impetus which recent attempts at legislation have given to such pretensions. As our readers are aware, we have all along maintained that a good deal of ignorant presumption and a spirit of insincerity and exaggeration have been displayed by the opponents of animal experimentation; but on these grounds alone, if for no other reasons, we held that it would be desirable that the question should be calmly and dispassionately investigated by a properly constituted commission, on which the claims and objects of science were adequately represented. In the minds of many very able, educated, and conscientious persons grave doubts exist as to the objects, extent, and nature of the experiments carried on in this country, and as to how far they are justifiable. It is necessary that a cloud of ignorance and prejudice should be dissipated, in the first place; and, in the second, we thought, and we continue to think, that, as there is a responsibility connected with the taking of life and the infliction of pain, it is a very legitimate and desirable subject for examination whether the limits of justifiable animal experimentation can be defined. It is admitted on all hands that we are justified in taking the lives of the lower animals or inflicting pain on them under certain circumstances. It

is the law of nature universally followed in the animal world, and it is a necessity of man's existence. Moreover, sportsmen do not hesitate to inflict pain and death in the pursuit of a selfish gratification, and Dr. RUTHERFORD was therefore able to use this argument with effect when he declared that the pain produced in all the physiological experiments in this country in the course of a year is as nothing when compared with that inflicted upon animals by the members of Her Majesty's Lords and Commons in an autumn holiday. It is, consequently, not for sportsmen to be the first to cast a stone at the vivisectionists. It may be argued that in the case of sport the animals killed serve for food; that they have a chance of escape; that there is no deliberate intention to inflict pain, but to kill; and that the animals hunted or destroyed are, generally speaking, useful for food, or are themselves destructive or injurious to man and other animals, or would become so if they propagated their kind unrestrictedly. On the other hand, there is the sentimental objection to vivisection arising out of a natural repugnance to experiments undertaken in cold blood on horses, dogs, and cats, the faithful companions and servants of men, with a deliberate foreknowledge that some experiments will cause much, and it may be prolonged, pain to the animals subjected to them, although the ultimate object may be the relief of pain and the furtherance of scientific discovery.

We confess that we think Dr. RUTHERFORD presses his principles too far when he argues that, teaching by demonstration being the most successful method, we are therefore always warranted in having recourse to it. Physiology and chemistry are both experimental sciences. The chemical lecturer can have no hesitation about employing any number of experiments, or of repeating them indefinitely to illustrate every step he takes; but we may fairly assume that the physiologist would be restrained by the thought that the materials with which he has to deal are not so much inert, lifeless matter, but sentient living things. We hold, therefore, that it would be both unnecessary and cruel to demonstrate every physiological truth by experiment, or to repeat indefinitely the same experiment simply because by such demonstrations the lecturer could make his teaching more definite, precise, and valuable. If, as Dr. RUTHERFORD avers, all the experiments on the higher animals that are really required for the purpose of education can be performed painlessly with the aid of narcotics, then, of course, he takes away the sting. But we do not for one moment believe that Dr. RUTHERFORD would lend the weight of his authority in support of all the alleged practices of Professor SCHIFF, for example. Indeed, on a careful perusal of Dr. RUTHERFORD's remarks, it will be seen that he fully admits narcotics should be used whenever it is possible to do so; and that he acknowledges it is not necessary for a sound physiological education that students be shown *all* the experiments that are needed to demonstrate physiological truths, but only such as directly affect cardinal points of physiology. We do not doubt that the subject, regarded in a legislative aspect, is one of extreme difficulty; but that is no reason why the attempt should not be made to ascertain the extent to which experiments on animals are carried on in this country, the conditions under which they are undertaken, and the persons by whom they are performed. The British Medical Association, we believe, itself set forth some years ago the conclusions which it had arrived at in this matter after it had been investigated by a committee; and we cannot see that any reasonable objection can be urged against a similar investigation being undertaken by a Government Commission at the present time, to whose deliberations the matter had better meanwhile be left. It is neither by compromise nor by stern resistance that the objections of a large body of influential persons can be overcome, but by a careful inquiry as to the truth or otherwise of the allegations against the practice of vivisectionists, so as to determine, if possible, the limits within which animal experimentation is right and justifiable.

Annotations.

"Ne quid nimis."

MENINGITIS OR TYPHOID.

THE account which a correspondent has furnished of a recent medico-legal case in the North of England will be perused with considerable interest. The differential diagnosis between meningitis and typhoid fever, on which it turned, is a not unfrequent clinical problem of considerable difficulty; and it has before now, if we mistake not, formed the subject of discussion in a court of law. It is rarely, however, that the pathological appearances in such a case afford ground for continued difference of opinion. That it was so in this instance is not, we think, very creditable. The case would appear to be sufficiently clear. A man died on the seventeenth day of an acute illness, of which intense headache, delirium (both continuing till death), constant vomiting, confined bowels, and convulsive movements in one arm, were the main characters; the illness beginning a few weeks after a blow on the head, and the two being connected by continuous head discomfort. The post-mortem appearances in the head, though not very distinctive of meningitis, were compatible with it; but those in the intestine were, according to our received opinions, quite sufficient to exclude typhoid fever. Death on the seventeenth day of typhoid fever has always hitherto been accompanied by intestinal ulceration, and in this case there appears to have been no more evidence of intestinal irritation than the administration of a purgative would account for. The surgeon to the Railway Company, being two hours late at the post-mortem examination, could give no evidence of value as to the morbid appearances, and the verdict was very rightly given for the plaintiff.

OFFICERS OF HEALTH.

THE report of Colonel Henderson contains, under the head "Common Lodging-houses," a paragraph exceedingly complimentary to officers of health. He says: "During the late epidemic of scarlet fever in the metropolis, which was of so severe a character as to call for special attention and advice from the medical officers of health as to the precautions necessary to be taken to prevent its further spread, I can with pleasure state that only four cases occurred in registered common lodging-houses, which is a subject of congratulation when it is remembered that about 27,000 persons are accommodated, most of them of the poorest class." This is high praise, and comes opportunely as an encouragement to a laborious and most earnest class of public servants whose efforts for the general

welfare are not always, or, perhaps we may say, even commonly, appreciated. The intervention of officers of health is too frequently looked upon with some dislike and suspicion by private practitioners. If it could be arranged to pay officers of health adequately for their services, and to relieve them wholly from private practice, one of the most serious obstacles to their usefulness, as a staff specially organised to crush out disease, would be removed. It would be well if the intervention of skilled sanitarians could be secured immediately an epidemic occurs; and if, without in any way, either sentimentally or practically, interfering with the medical man in attendance, they were able to direct and enforce the precautions necessary to isolate cases, and exterminate the active causes of "infections" or "contagious" disease. But it is indispensable that medical officers of health, to be widely and sufficiently appreciated, should not themselves be practitioners. It is a mere question of money whether the preservation of public health is confided to a staff of special experts, or left as an unrequited service to be rendered, willingly enough, but under the pressure of more general daily business, by a profession always overworked and commonly underpaid. It is not worthy of a great people or a wise State to leave its vital interests to be thus vaguely and spontaneously protected. Public health is worth paying for. It is worth as much as lighting, paving, or safeguarding our streets. We do not expect these services to be rendered for nothing; why should we expect men who are busy curing disease to devote time and effort to prevent it? Society has recognised the need of a staff of officers of health; it will be wiser and cheaper in the long run to pay them sufficiently to make the service thoroughly skilled and exclusive—a duty and a profession, apart by itself.

THE COLOSSEUM A SANITARY NUISANCE.

THE above announcement seems a startling one, but it has a certain foundation in fact. In the course of the excavations carried on under the eye of the Commendatore Rosa to determine the true arena of the Colosseum, many fragments of columns, capitals, plinths, and other decorative objects were found; and furthermore, at the depth of twelve metres, the *specus emissarius*, or reservoir and conduit for the water with which the amphitheatre was flooded on the occasion of *naumachiæ*, or mock sea-fights. This *specus emissarius* also received, through its upper trunk, the subterraneous water of the Esquiline, Celian, and Palatine hills, and carried them by its lower trunk through the valley between the Celian and Palatine, towards the Circus Maximus till it debouched in the Tiber. These trunks and their feeders having in the course of centuries become choked up, the water supplied to them has filtered into the surrounding soil, till at the depth of a few metres you have only to dig and, as in the Forum and the Campus Martius, water bubbles up freely. The Colosseum, forming a kind of basin, soon yielded water during the excavations, and in such quantity that hydraulic pumps were in constant requisition to enable the workmen to proceed. Now that the excavations have for the time been suspended the pumps have not been in play, and so the water has accumulated till quite a lake has been formed in and around the Colosseum, and the Romans are in terror lest the exhalations from it should poison the neighbourhood. By order of the Minister of Public Instruction, accordingly, a commission, consisting of Drs. Ratti, Lameuzi, and Carlucci, have investigated the apprehended evil at its source, and have, in an elaborate report, formulated the reassuring opinions—1st. That the water accumulated within the Colosseum can cause no injury to health, because it is not stagnant, but, thanks to the old *specus emissarius*, still runs, and is renewed, being taken up by the surrounding soil. It is open to the air and atmospheric action, while there are no conferve or lacustral vegetation on its surface, but, on the contrary, it is clear and even potable. 2nd. That, though thus far innocuous, the water must have more rapid and fuller vent; and this can easily be afforded by the Government engineers. 3rd. That with such accelerated flow the water, tapping as it does the Esquiline, Celian, and Palatine, will improve the soil of these localities by draining them far more thoroughly than hitherto. 4th. That during the prevailing heats the hydraulic pumps are better idle, as their active play would only expose a larger area of mud to exhale freely in the sun. 5th. That outside the Colosseum the shafts sunk by the excavators, and more or less welling up water, had better be closed, as not immediately drained off by the *specus emissarius*. 6th, and finally. The turned-up soil before the Colosseum, being imperfectly drained, particularly below the Temple of Venus and Rome, and around the Meta Sudans and the Arch of Constantine, and even now becoming a quagmire, must be well sprinkled with lime and covered with gravel, so as to suppress the effluvia already too perceptible to the wayfarer. And so ends the Roman physicians' report, which has allayed the fears of a rather susceptible neighbourhood, and reinstated in public favour their grand old patient the Colosseum.

INJECTION OF QUININE INTO THE TRACHEA IN INTERMITTENT FEVER.

IN some cases of the most pernicious forms of intermittent fever the stomach is so irritable that it is useless to administer quinine by the mouth, as it is immediately rejected; and the state of the circulation in the cutaneous capillaries is such that little or no absorption would take place were it administered hypodermically. In such instances great and immediate benefit may be derived from the injection of solution of quinine into the trachea, as appears from the very interesting and remarkable cases recorded by Claude Bernard, in his recently published "Leçons sur les Anæsthésiques," as having occurred in the practice of Dr. Jousset of Bellesme. One of these cases, much curtailed, was as follows. Some years ago Dr. Jousset, travelling in the northern part of the Greek Archipelago, was called in the morning to see a Greek child, aged twelve, who was seriously ill. On arriving, he was informed that the child was delicate and liable to febrile attacks, but had been in her ordinary health the day before, when she had been playing with other children. In the evening she had suddenly become pale and shivery, and the parents thought her dead; but after two hours or less she had partially recovered and fallen into a deep sleep. In the course of the night she had two more fainting fits. When Dr. Jousset saw her she was lying on a thin mattress on the floor, extremely pale, with deep sunken eyes—in a word, like death. The respiration was scarcely perceptible; the pulse from 38 to 42, very feeble. Slight indications of intelligence still remained. On auscultation coarse râles were heard. The belly was soft, the liver normal, the spleen very large. M. Jousset diagnosed it as a case of malarial fever of bad type; and he immediately endeavoured to give the patient some quinine, but vomiting was induced, and syncope. Having previously had a successful case, he at once proceeded to inject a solution of hydrochlorate of quinine into the trachea. He inserted the trocar of a Pravaz' syringe into the middle of the trachea, between the first and second cartilaginous rings. A little difficulty was experienced, as the thyroid gland was large, and he only satisfied himself that the point was free by blowing through the canula. The pulse was now 31. No effort at coughing was made, and he thought she had succumbed. Five minutes after

the pulse was 40. The limbs were now covered with warm flannel and light friction made. In ten minutes the pulse had risen to 45, and an involuntary evacuation occurred. She murmured some words. In thirty-five minutes she asked for some drink. She complained of intense pain in the head, which, however, was not hot. In an hour the pulse had risen to 96; and shortly afterwards she was in her ordinary health.

THE PRESCRIPTION OF "SPOONFULS."

THE coroner for the City of Exeter has been the means of entering on the death-register a strong and useful protest against the time-honoured practice of prescribing medicine by the spoonful. It is pretty generally known that the teaspoon and tablespoon of the present day are of far from fixed capacity, and may, moreover, be said to average nearly double the size that was in vogue little more than a quarter of a century ago. If, therefore, the terms teaspoon and tablespoon were even qualified by the words "old" or "new style," some guide would be given as to the quantities intended; this, however, is seldom the case. A month or two since the infant daughter of a coach-trimmer, aged nineteen days, died in Exeter, under conditions that suggested poison as the cause. The result was an inquest, and a chance examination of the Exeter death-register the other day for another purpose, showed that the cause of death of this infant was returned in the coroner's certificate in the following manner:—"Congestion of the lungs, accelerated by an overdose of opium, innocently administered by her mother from a *modern* teaspoon containing two drachms, instead of from a teaspoon of older date, containing one drachm." The evidence given at the inquest is not before us, and therefore we are unaware of the form of opium that was administered to the infant, or under whose advice it was given. The probability is that the mixture was one of those deleterious compounds known as "soothing syrups," and that the "directions for use" prescribed the teaspoonful. However this may have been, it is beyond dispute that the term "spoonful" no longer signifies a quantity which is sufficiently definite and intelligible to the public, and should therefore be abandoned.

URBAN DEATH-RATES IN ENGLISH AND SCOTCH TOWNS IN JULY.

THE Scottish Monthly Return of Mortality in the eight principal towns of North Britain is in some respects fully as valuable a contribution to vital statistics as the Registrar-General's Weekly Return in England. The summary of twelve monthly returns gives correct statistics for a year, whereas from weekly returns accurate numbers for a year can never be obtained. On the other hand, the promptness of information as to mortality from zymotic diseases in the eighteen large English towns contained in the weekly returns has a well-defined value, which more than outweighs the greater completeness of detail in the Scotch monthly return. One of the objections to the want of uniformity in the system of publication north and south of the Tweed is the difficulty of comparing the results for the Scotch and English towns. We propose to institute a brief comparison for July by using the figures from the Scotch monthly, and from the English weekly returns relating to the twenty-eight days ending 31st July. The eighteen English towns have a present estimated population of 6,682,033, while that of the eight Scotch towns is but 1,171,989. The annual death-rate in the English towns during the four weeks of July was 22·7 per 1000, whereas in the Scotch towns the rate for the month was 23·5. As regards the mortality from the seven principal zymotic diseases, it was equal to 5·5 in the principal urban population of England, and did not exceed 4·8 in that of Scotland. The zymotic death-rate in England during July is governed by the rate of infant mortality, and the annual death-rate from diarrhœa in the eighteen English towns during that month was 2·7 per 1000, whereas in the eight Scotch towns it did not exceed 1·3 per 1000. Excluding diarrhœa from consideration, the death-rate caused by small-pox, measles, scarlatina, diphtheria, whooping-cough, and fever, was 2·8 in the English towns and 3·6 in those of Scotland. Among the English towns the death-rate from all causes ranged from 14 and 16 per 1000 in Portsmouth and Norwich, to 29 in Nottingham, Salford, and Newcastle-upon-Tyne. In the Scotch towns the rate was only 16 per 1000 in Aberdeen, and ranged upwards to 25 in Greenock, 26 in Glasgow, and 31 in Paisley. The death-rate from the seven zymotic diseases was as low as 0·8 in Portsmouth, while the highest rate was 9·8 in Salford. The zymotic rate in the Scotch towns ranged from 2·0 per 1000 in Aberdeen, to 7·1 in Greenock and 7·8 in Paisley. We can only now apply one more comparative test to the mortality statistics of the large English and Scotch towns during July. The death-rate from various forms of fever, of which typhus and enteric are the most fatal, was equal to 0·40 per 1000 in the eighteen English, and to 0·58 in the eight Scotch towns. The comparison is in favour of the health or sanitary condition of the English towns on each point, excepting alone the death-rate from diarrhœa, which in July was nearly twice as high in England as in Scotland. It is impossible here to discuss the cause of this greater fatality of diarrhœa south of the Tweed; the intimate relation between temperature and the mortality from this disease must, however, be remembered, although there is reason to believe that in the poorer classes more intelligent care of infant life is found in the Scotch than in the English mother.

ABEYANCE OF VACCINATION IN KEIGHLEY UNION.

WHILE those who firmly believe that vaccination secures the nearest known approach to immunity from the worst forms of small-pox are anxiously awaiting the result of that tedious form of prosecution of the Keighley Board of Guardians by *mandamus*, few appear to be aware of the present all but complete abeyance of vaccination within that union. Previously to 1873 there appears to have been no organised opposition to vaccination in the neighbourhood, at all events the number of defaulters was then inconsiderable. Between the beginning of 1873 and the middle of 1875, however, of about 4421 children born in the union, no less than 2344 remain unvaccinated; neither have all the other 2077 children been vaccinated, as considerable numbers died before the statutory six months from birth had elapsed, until which they are not classed as defaulters. It is also to be noticed that, in spite of the small-pox epidemic, which usually causes a large increase in the number of vaccinations, the defaulters were considerably more numerous in 1874 than in 1873. At a recent meeting of the Keighley Guardians, Dr. Macnab, one of the public vaccinators, resigned his appointment because he had attended at the vaccination stations four times a month during the year, and not a single case had been presented to him for vaccination! This board, at the same meeting, passed a resolution, with the help of the chairman's casting vote, not to receive some statistics of small-pox and vaccination drawn up by the medical officer of the workhouse, because he refused to place his books in the hands of the guardians, in order that they might test the accuracy of his figures, and investigate the cases. Such an investigation could not, however, be satisfactory after the

death and burial of so many of the small-pox patients. So long as the anti-vaccination agitators insist upon believing that the vast majority of the medical profession and of the intelligent public are conspiring to maintain vaccination by false and "cooked" statistics, it is useless to attempt to reason with them.

MEDICAL AND SANITARY FATALISM.

IT is quite time that an urgent protest was entered against a species of fatalism which is now finding its way into reports of certain medical officers of health, and is leading them to attempt to forecast not only the prevalence of disease, but the proportion of deaths that will result from it. The Peculiar People confess to a belief that disease is inevitable and invincible, only yielding to prayer; but what becomes of our boasted medical and sanitary progress, if epidemics are to be professionally prognosticated to run the same course and to lead to the same mortality as in times gone by? It may answer a useful purpose for medical officers of health, in order to stimulate their sanitary authorities to continued activity, to warn them that the study of what it is now the fashion to call waves of disease leads to the conclusion that we may soon expect an epidemic of one or other disease. Crying wolf, however, is a dangerous weapon—it is a two-edged sword that cuts both ways. Dr. Tripe, in his recently-issued report upon the sanitary condition of Hackney, says that during 1875-6 a very much larger mortality from scarlet fever must be expected. The medical officer of health for Hackney is perfectly justified in calling attention to the probability that if the epidemic of scarlet fever in London, which has more or less prevailed since the latter part of 1874, is to run the course of previous epidemics, its fatality may revive later in the year. Is it not fair, however, to express a hope—nay, a belief—that the sanitary condition of London has improved, and that epidemics will continue to show a declining fatality? Did not the cholera epidemics of 1832, 1849, 1854, and 1866, successively show a marked decrease in mortality in London? This attempt to prophesy increased fatality of scarlet fever appears to us to show a want of confidence in our increased power to deal with epidemics which is especially out of place in a medical officer of health's report.

URINALS.

ALTHOUGH London is supposed by some fortunate persons to be empty at the present time, a section of the population is still compelled to exist within its precincts, and, with a temperature of considerably over 70° Fahr., to endure many mundane inconveniences. Among those of an offensive character may be classed the metropolitan urinals. It is an unsavoury subject, but we are bound to declare that these indispensable establishments, whether in the street, at the railway station, or on the river, are for the most part in a superlatively nasty condition, and sometimes intolerably stifling. The individual who invented and fabricated the elaborate receptacles of nastiness fitted in most London urinals, can by no means be classed as a benefactor of mankind. The pan itself (utterly superfluous and useless) is usually coated with a foul deposit, the exit pipe blocked up, and flow of water *nil*, as though the officials were chiefly concerned in reserving specimens for clinical examination. These places are rendered still more hideous by an attempt made in some cases to ornament with coloured tiles, patent ironwork "treadles" and the like, the latter of which soon, of course, rust, and the levers get out of gear. According to our own observation the only clean and wholesome place of the kind at the present time is to be found at the Victoria Station of the London and Brighton Railway. It is absolutely roofless, the compartments are placed back to back, no vile pan arrangement exists, slate only is used in the construction of the urinal, and a continuous stream of water flows into a wide gutter beneath, laid at a good incline. If urinals constructed in this way are properly cleaned out several times in the day (according to frequency of occupation), and *liquid* instead of solid deodorisers or disinfectants used, and the abominable pans abolished utterly, no accumulation need take place (if the drains below are free), and we who are compelled to remain during the dog-days in this "deserted village" would possess one nuisance less. It appears, to us, indeed, that a periodical examination of all such places, including those on the steamboat piers, should be made by the officers of the various sanitary authorities.

PARIS AND LONDON IN 1874.

THE *Bulletin récapitulatif de Statistique Municipale*, relating to Paris for 1874, has just been issued by the Préfet de la Seine. It corresponds with the Registrar-General's Annual Summary for London, and although its statistics are published in a far more elaborate form than those for London, they afford the means for a comparison between the vital statistics of the two largest cities of the world. The population of London in 1874 was very nearly double that of Paris; the density of population in persons to an acre was, however, only 44 per acre in London, whereas it was 96 in Paris. The marriage-rate was 8 per 1000 in London and 10 in Paris; the birth-rate 35 in London and 29 in Paris; and the death-rate 21·6 in London and 22 in Paris. Whereas the marriage-rate in Paris exceeded that in London by 25 per cent.; the birth-rate in Paris was 20 per cent. below that in London. The death-rate in the two cities in 1874 showed little difference, and yet, in consequence of the variation between the birth-rates, the natural increase in the population during the year, by excess of births over deaths, was equal to nearly 14 per 1000 in London, whereas it was not more than 7 per 1000 in Paris. Notwithstanding that the marriage-rate in Paris considerably exceeds that in London, the proportion of illegitimate births in Paris was nearly 27 per cent., while in London it is only about 4 per cent. With regard to the mortality statistics, the annual Paris Bulletin contains information in far greater detail than the London Annual Summary. The rate of mortality is given for each of the twenty arrondissements, and for each of the eighty quartiers into which Paris is divided. In the twenty arrondissements the death-rate in 1874 ranged from 15 per 1000 to 27. It is somewhat remarkable that in the arrondissement in which the density of population is greatest in Paris—namely, more than 300 persons per acre—the death-rate did not, in 1874, exceed 16 per 1000. London figures show a very different result.

THE LOCALISATION OF SENSORY CENTRES IN THE BRAIN.

AT the recent meeting of the British Medical Association, Dr. Brunton read a paper, communicated by Dr. Ferrier, containing an "Abstract of Experiments on the Brains of Monkeys, with special reference to the Localisation of Sensory Centres in the Convolutions." The experiments, which were conducted by trephining and the destruction of the sensory centres by means of a red-hot wire, led to the following results. These centres are bilateral, so that when one of the centres of touch was destroyed, there was loss of tactile sensibility in the corresponding half of the body. Stimulation of the centre of hearing caused the animal to prick up its ears as if it heard something, while destruction of the whole of this centre rendered the creature totally deaf. Destruction of the centre of vision corresponding to

one eye (e. g., the right) only rendered the animal temporarily blind in that eye, the function, after twenty-four hours, being carried on by the opposite centre. In the discussion that followed, Dr. Nairne pointed out that other observers had arrived at conclusions different from those of Dr. Ferrier, and that the brain of a monkey could not be taken as exactly similar to that of a man; but Dr. Brunton thought the mistake made by German and other investigators who differed from Dr. Ferrier was, that they took the brains of animals lower even than the monkey to correspond with that of man. M. Dupuy had arrived at different results. He said that he had found that when the centres of motion on one side of the brain were removed, paralysis followed for a short time throughout the corresponding part of the body, but that when the centres were removed from both sides of the brain there was no paralysis at all.

THE COLLEGE OF PHYSICIANS AND PSYCHOLOGICAL MEDICINE.

THE Royal College of Physicians of London has instructed its Registrar to prepare and submit a regulation to the College, "That students who wish to qualify for the examination for the membership or licence of the College may substitute, if they so desire, a three months' course of clinical instruction in the wards of a lunatic asylum for the same period of attendance in the medical wards of a general hospital." The College, by this step, does no more than recognise adequately the importance of psychological medicine. It has the merit of exacting from its candidates a pretty good measure of hospital practice. In the case of candidates for the membership attendance is required for three winters and three summers on the medical practice of a hospital, and for three winter and two summer sessions on the surgical practice. Almost the same demand is made of candidates for the licence. Clearly three months of this period might not unprofitably be spent in the study of mental disease. Even for purposes of general practice the knowledge so acquired would be useful, and for those contemplating more exclusive attention to psychological medicine the knowledge would be invaluable.

THE COAGULATION OF THE BLOOD.

M. GLÉNARD, of Lyons, finds that the influence of foreign bodies in determining the occurrence of coagulation in blood is the less, the closer their physical texture resembles that of the physical texture of the bloodvessels. Coagulation is the indication of the death of the blood. It is capable, according to M. Glénard, of being revivified as long as it remains fluid in a bloodvessel even away from the body. The blood of an ox can be transfused into a dog with success six hours after removal from the body. The coagulability is retarded, but not destroyed, by concentration of the blood, which acts in a manner analogous to the admixture of salt. An analogy may be drawn between the effect of deprivation of water upon the rotifera. Blood contained in a bloodvessel which had been removed from the body of an animal may be slowly dried, and when the vessel has a horny consistence, the contained blood may be powdered and subsequently mixed with water, in which it forms a solution capable of undergoing spontaneous coagulation, even after it has been filtered.

BLIND USE OF DRUGS.

HEADS of families who are in the habit of indiscriminately using patent medicines for all sorts of affections and all ages should be warned of the disastrous effects which sometimes result from the ignorant administration of drugs, valuable in themselves and when given under proper medical advice, by the facts elicited at a recent inquest before Mr. Bedford. A child, aged six months, suffering from diarrhœa, was given a dose of chlorodyne by her father. Death soon after ensued. Although, after a post-mortem examination, an opinion was given that diarrhœa was the cause of death, it is easily conceivable that a very small dose indeed of the preparation would prove fatal to a baby. Chlorodyne contains opium, chloroform, and prussic-acid, ingredients that should teach any one of the risk of giving it to children under a certain age.

NEW MEDICAL SCHOOL IN GLASGOW.

WE understand that the managing body of the Glasgow Royal Infirmary are about to receive authority, under a new supplementary charter, to establish in connexion with the hospital a medical school. The opening of the Western Infirmary, in close connexion with the University, has had the foreseen and natural effect of draining from the older hospital the greater number of University students. It says much for the energy of the directors of the Royal Infirmary that they have taken the earliest opportunity of obtaining powers to render the great resources of their hospital for practical teaching more largely available for students of medicine. The new school will have this advantage over the existing extra-mural school, that the University authorities will be able and, we have no doubt, glad to exercise the powers they possess of recognising attendance, within certain limits, on the lectures delivered at the infirmary as qualifying for graduation. The sole plea on which the University has hitherto refused to accept the certificates of the teachers of Anderson's University—viz., the assumption of academic status implied in the name of the institution—will not exist in the present case. We shall watch the establishment and progress of the new school with kindly interest and the best wishes for its success.

MISPLACED BENEVOLENCE.

A LAY contemporary states that "Adelina Patti has evinced her deep and earnest sympathy with sufferers from throat disease by promising to return from the Continent some time in September for the purpose of laying the foundation stone of the Throat and Ear Hospital in Gray's-inn-road." Someone should inform the fair cantatrice that there is not the slightest need for establishing an excrescence of the sort named. Patients suffering from throat and ear affections are skilfully treated at our general hospitals. If the Marquise de Caux is desirous of gracing with her presence—which of itself would ensure a large measure of pecuniary success—the inauguration of a new medical charity, let it be one which receives the commendation and support of the profession.

DRUNKENNESS IN IRELAND.

THE Report of the Inspector-Generals of Irish Prisons for 1874 shows an enormous increase in the amount of imprisonment for drunkenness in that country. The number of commitments to borough and county gaols has increased progressively from 6645 in 1867, to 14,008 in 1874. These represent, it appears, a more severe degree of punishment rather than a corresponding increase in the amount of drunkenness. Short periods of imprisonment, under forty-eight hours, are spent in the local bridewell, and are not included in the report. The magistrates have endeavoured to lessen the amount of intoxication by lengthening the period of imprisonment for it, as they are able to do under the new licensing Act. But the repetition for each offence of a comparatively short period of imprisonment is appa-

rently, as might be expected, of no effect. It only, as the Inspector-Generals point out, enables the drunkard to recover from the effects of his debauch, and sends him out ready, and probably much inclined, to renew it. They recommend that habitual drunkenness should be visited with a term of imprisonment sufficiently lengthened to afford some chance of permanent recovery. But it is improbable that such a measure could be carried out. The moral of the report and recommendation is the urgent need for institutions which would not be prisons, in which the habitual drunkard could undergo a seclusion which would be remedial rather than directly punitive, and in which he might have some chance of recovery.

"RAILWAY SHOCK."

THE remote effects of shock on the nervous system constitute a grave financial drawback to the prosperity of some of our railway companies, and afford a ground for not a little divergence of opinion, out of which the unfortunate sufferer does not always obtain his due. The occurrence of a period of perfect health between the receipt of the accident and the supervention of the nervous symptoms is a condition to which the mind of a jury is particularly obtuse. They are more conscious of the promising field for simulation which this class of symptoms afford than of their possible reality and gravity. It is no doubt right that this should be the case to some extent. But a very slight degree of nervous breakdown may be sufficient to entirely disable the sufferer from following his accustomed employment. This was the result of a severe shaking in a case tried in the Sheriffs' Court a few days ago. The plaintiff was a commercial traveller, whose income depended on his constant use of railways, and it was alleged that the pain and nervous excitement which persisted two years afterwards incapacitated him from travelling to an extent which warranted heavy damages. The evidence, however, was not sufficient to satisfy the jury that more than very moderate compensation was indicated by the facts of the case.

PARENCHYMATOUS HEPATITIS.

AT a recent meeting of the Société de Biologie M. Cornil gave an account of the changes met with in the livers of patients who had died from parenchymatous hepatitis supervening in the course of puerperal fever, leukhæmia, typhoid fever, and variola. In all these cases he found similar changes to those which he had previously described as taking place in cirrhosis. The smallest biliary capillaries were filled with epithelial cells, finally obliterating the channels altogether. These changes being most marked in the peripheral ducts of the lobule, it is easy to account for the production of jaundice in these cases, the bile contained in the central canaliculi not being able to escape into the interlobular ducts. It will be seen that this explanation of the occurrence of jaundice in febrile affections is based on the view of there being mechanical obstruction to the outflow of bile; and whereas this obstruction is usually attributed to catarrh of the larger hepatic ducts, it is, on these researches, simply placed further back—viz., in the periphery of the lobules themselves.

SANITATION IN LEICESTER.

IN consequence of the prevalence and fatality of diarrhœa in Leicester during the last few months, the sanitary authority of the town determined to institute an inquiry into the cause and condition of such an abnormal visitation of disease. Dr. Buck and Mr. Franklin have been appointed to carry out the work of investigation, for which they are to be rewarded. They are instructed to visit every house in which the death of a child under five years of age from diarrhœa has occurred since the 1st July, and to ascertain particulars of each illness, and whether deceased had received regular medical treatment. The important questions of diet, the health and occupation of the parents, and the condition of the drainage are also to be worked out. The inquiries are to extend to all localities of the town where infantile diarrhœa is now prevailing, although no death has occurred, and a report is to be made with as little delay as possible. We have no doubt that the energetic action taken by the health authority will be the means of bringing to light the origin of the disease, and of indicating measures for its suppression.

THE CHAMELEON.

M. BERT has recently made some curious observations on the chameleon, which apparently indicate a very unusual relation of the two halves of its nervous system. Having removed the right eye of one of these animals, he produced, by irritating it, a rapid change of colour on the left side of the body. The right side was much longer in changing its colour, and did not acquire the same tint. He subsequently removed the left eye, and found that then the change of colour on irritation was regular and identical on the two sides. In another experiment he found that one of these animals, the right cerebral hemisphere of which had been removed, used only the left paw. On the subsequent removal of the left hemisphere it presented very active and bilateral reflex movements.

MAJOR BOLTON, in his last monthly report of the London water-supply, expresses an opinion that the contamination of water from the gases generated by sewage is of more frequent occurrence than is generally supposed. The gases are extremely liable to flow back into the cisterns and become absorbed by the water unless the overflow pipe is brought outside the house and the end left exposed to the air, instead of being carried into the drain. Although this simple and effective plan has been advocated over and over again in our columns, the importance of the subject warrants us in again impressing upon householders the necessity for its general adoption. The cisterns should be frequently cleaned out, especially after periods of flood and turbidity.

THOSE whose hard fortune compelled them to travel by the Underground Railway during the very hot days we experienced in the early part of this week must have realised the sensation of taking a Turkish bath, without being benefited by the processes of shampooing and washing. When these railways were first started, it was promised that the ventilation of the tunnels would be gradually improved as the system became developed. No real improvement, however, has been effected in this direction, and the atmosphere along the line is as foul and vitiated as ever. In all seriousness, we think the offensive acrid smoke and stifling heat inseparable from a journey on the Metropolitan should be avoided as much as possible by weakly persons.

FOUR years ago it was determined to commemorate John Hunter's long residence in Kensington—a period of nearly thirty years—by placing a memorial window in Kensington parish church. The last appeal for subscriptions is now being made. The sum in hand for the purpose amounts to £80, and further subscriptions (limited to 21s.) are solicited by Mr. Frank Buckland, 4, Old Palace-yard, Westminster, and Mr. J. J. Merriman, 45, Kensington-square, W. A list of donors will be published in the course of the year, and a drawing of John Hunter's house and grounds forwarded to each subscriber. Hunter will be worthily associated with Newton, Addison, and others whose memories are similarly preserved in the church.

THE existing Public Health Acts of 1872 and 1874 prohibit sanitary authorities and other parties from terminating their sewers in water-courses. Dr. Cameron, of Dublin, however, in a recent report on public health, considers that there are great difficulties in the way of disposing of sewage, and believes that in many cases it will be far the cheapest plan to allow the rivers to remain, as they have always been, the great natural drains, or main sewers of the country, and to procure supplies of pure water from a distant source.

WE are informed that the Royal Commission on Copyright has been definitely settled by the Government, and will, it is expected, meet to take evidence about January next, under the presidency of Earl Stanhope. The objects of the Commission will be to see how far, and in what direction, international, colonial, and domestic copyright can be improved. The subject is one of considerable interest to medical authors, some of whom will, we hope, be called before the Commission.

IN London 1483 deaths were registered last week, including 1 from small-pox, 36 from measles, 87 from scarlet fever, 7 from diphtheria, 50 from whooping-cough, 22 from different forms of fever, and 147 from diarrhœa. Different forms of violence caused 56 deaths, 10 of which were due to drowning. The Asylum District Fever and Small-pox Hospitals at Homerton and Stockwell contained, on the 14th inst., 225 patients, of whom 163 were under treatment for scarlet fever and 6 for small-pox.

THE Secretary of State for the Home Department has directed Colonel COX, R.E., to hold an inquiry with reference to a complaint of the Lea Conservancy Board, that the purification and disinfection of the sewage matter passing through the sewage works of the Local Board of Tottenham are insufficient. The want of such an inquiry has been felt in the locality for a long time past.

LADY COTTESLOE died a few days ago from the effects of poison taken inadvertently. She was suffering from rheumatism, and, in addition to taking medicine, was using a lotion, which, in an unfortunate moment, she drank in mistake for the mixture. After two days' suffering she died. Her ladyship was seventy-two years of age. We suppose the lotion contained aconite or belladonna.

THE Governors of the Royal Infirmary for Children and Women, situated in Waterloo-bridge-road, have decided on temporarily closing the institution in order to make certain much-needed alterations. A ward capable of holding 25 additional beds is to be added to the building.

DR. HARDWICKE held several inquests this week on bodies where death was directly attributed to overcrowding and want of fresh air. Evidence of a shocking condition of existence was given, and the imperative necessity of an Artisans' Dwellings Act was demonstrated.

WE understand that Mr. CORBETT has, in consequence of ill-health, resigned the chair of Anatomy and Physiology in Queen's College, Cork—an appointment that he has most creditably held for a period of twenty-four years.

ACCORDING to recent accounts from Rome, the Pope's health has greatly improved within the last few weeks. His Holiness now does a large amount of work.

WE understand that the epidemic of enteric fever in Müller's Orphan Houses, Bristol, has now been almost entirely stamped out.

Correspondence.

"Audi alteram partem."

THE CASE OF GENERAL REECE, C.B.

To the Editor of THE LANCET.

SIR,—The very singular medico-legal questions involved in the case of the late unfortunate gentleman, General Reece, the publicity given to it by the coroner's inquest held at his death, and the article in THE LANCET of last week, may render some authentic account of his case interesting to the profession.

On the 1st day of July last I was requested to see General Reece. I found him in his own lodgings, a comfortless room without carpet, in almost total darkness, the shutters being perforce closed, as the lower pane of the window had been broken. General Reece received me very politely. We had a long conversation. I gathered from him and from his attendants that on the 17th of March he had had a seizure of some kind in the night, that this was followed by paralysis of the lower extremities, which he erroneously thought was now better. He had two nurses from an institution in the neighbourhood during the whole time. Within the last three or four days they had sent to the same place for a male attendant, the General being beyond their control and having broken the window. Against this man General Reece spoke in terms of great dislike.

He had, besides the paralysis, bronchitis and some symptom of heart disease. I advised his removal to a house in which his son was lodging, some few doors off in the same street. I thought he had been well and judiciously treated by Dr. Broxholm, and his medical treatment therefore remained unaltered. I had no doubt that General Reece was of unsound mind, and that certificates of lunacy were legally indispensable in his removal. These were accordingly signed by Dr. Broxholm and myself. Dr. Wood was also consulted, but was unable to write a certificate, although perfectly agreeing with me in my opinion of the General's mental state.

It was found impossible to remove the General from his house, although Dr. Broxholm and I had thought it practicable the day before. The curious question then arose, Could a patient be legally kept under control without certificates in his own lodgings as he could be in his own house? Upon this the opinion of the Commissioners in Lunacy was obtained, and under their direction an order was made by the son of General Reece, authorising the detention of his father, addressed to Wheeler, another attendant from the same Institute for Nurses. The certificates, signed by Dr. Broxholm and myself, were put in force, and General Reece was placed under the protection of the Commissioners. Dr. Broxholm and I considered the General to be suffering under organic brain disease, and to be partially imbecile, the effect of age and hard service in India. If there could be any doubt as to the correctness of the conclusions arrived at by the constant medical attendant of the General and myself, it may be dispelled by the fact that Dr. Maudsley, on the 13th of July, made an affidavit to the fact that the General was the subject of "senile insanity." After frequent visits I made a similar affidavit about the same date, and these affidavits are confirmed by the "statement" sent up by Dr. Stewart, as the official medical attendant under the statutes of lunacy. Dr. Quain and Dr. Wilks were also consulted in General Reece's case. As far as I know there has been no opinion as to the sanity of General Reece given in opposition to our affidavits by them or any other physician.

On the 12th of July the General died. Mr. Low, his banker and executor, applied for a coroner's inquest, alleging that confinement as a lunatic had accelerated his death. The verdict, as a matter of course, was "Death from natural causes." One or two of the jury (not the coroner, as it was erroneously reported) thought that confinement as a lunatic had been injurious. They would hardly have thus given pain to the General's family if they had known that the employment of such confinement, light as it was, was forced upon them by the exigency of the lunacy laws, and in my opinion could not have been carried out with greater gentleness and skill than it was by Dr. Broxholm. It is signifi-

cant that Mr. Low should have made the application for an inquiry at the deceased General's own request. It was one of the marked characteristics of the General's infirmity of mind that he thought himself ill-treated by his sons, who, he thought, had kept him in bed, the fact being that he could not walk or even stand up without assistance.

In the opinion of Mr. Low, General Reece was always of sound mind. Upon his representation, the Commissioners in Lunacy made the most stringent inquiries into the case. At his application, judge's orders were freely made to give him access to the patient. At his desire, on the General's death, a coroner's inquest was held, at which Dr. Broxholm was closely examined. A writ of *habeas corpus* was also about to be issued; and, as it was, one of the judges himself went down to see the alleged lunatic, taking with him his own physician, Dr. Langston. It may be presumed that this course was adopted in order that the judge might be perfectly assured of the physical impossibility of the family of General Reece taking him into court. The action taken by the learned judge, Baron Cleasby, proves how much importance he attached to the question, and the promptitude with which he would have acted if he had found it necessary.

Mr. Low may be right; Dr. Broxholm, Dr. Maudsley, and Dr. Tuke, together with the family of General Reece, may be wrong. But it is abundantly clear that nothing has been done, on the one side, inconsistent with the conduct of people of proper feeling acting under the advice of physicians of reputation; nor, on the other side, has there been any difficulty in obtaining the fullest opportunity for investigation, and, if wrong had been committed, of speedy redress.

The case of General Reece shows very forcibly the intense jealousy of our English law of any undue interference with the liberty of the subject, and, with the present legal safeguards, the impossibility of any really sane man being wrongfully treated as a lunatic.

I am, Sir, your obedient servant,

HARRINGTON TUKE.

Albemarle-street, W., August 18th, 1875.

WOOD v. THE MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE RAILWAY COMPANY.

To the Editor of THE LANCET.

SIR,—I think this trial, both on account of the medical questions which were raised in its course, and of some incidents in connexion with it, is worthy of notice in your journal, and will be of more than usual interest to the profession. It was brought, as you will see from the accompanying report, by the widow of a farmer, to recover compensation for the death of her husband, which it was alleged was due to the negligence of the defendants.

On Nov. 21st last the deceased was travelling on the company's railway, and as his train was standing still at Conisborough Station an engine and tender ran into it. The deceased was much shaken, and received a blow on the head, which left a contusion the size of a florin, by being thrown against the door of the carriage. He received also minor injuries about his wrist and elbow. Immediately after he got home he complained of pain in the head, and spent a restless night. He was able, however, next day to go to Dr. Seaborne for advice, feeling very unwell. He was given an aperient, and advised to go to bed. The company's medical officer, Mr. Fox, visited the deceased on Nov. 30th, and found him suffering from headache, sleeplessness, and shakiness. There was still the bruise on the temple. Up to Dec. 24th deceased suffered more or less constantly from the same symptoms, at times more or less severe, but on that and the following day he appeared to be so much better that he hoped he had quite recovered his former good health. Indeed, for some days previously the advisability of coming to an arrangement with the company about compensation had been discussed.

Late on the evening of the 25th December, however, the headache and restlessness returned in a more intense form, this time accompanied with vomiting. From that date he kept his bed, Dr. Seaborne attending him, and he was so much worse on January 2nd, that Mr. Lister, of Doncaster, was called in. His symptoms were then, intense headache, persistent vomiting, inability to retain food, constipation (except for two days, after a repeated aperient, of which more will be said), intolerance of light, muscular twitchings, and delirium. He was seen again by the company's medical officer on January 6th, who found him with a pulse of 130; temperature 103·4°; pupils dilated; a dry, brown tongue; pain on pressure in right iliac fossa. There was no rose rash anywhere on body. From this time until the 9th January, when he died, deceased gradually became comatose, with occasional violent delirium, convulsive twitchings, retention of urine, constipation, and dilated pupils. He was apparently partially conscious at times in the midst of his delirium, till near his death.

The post-mortem examination was arranged to be made on the 11th, and was fixed for 10 o'clock, notice of which was sent to the medical officer of the company. He did not, however, arrive till after 12 o'clock, and until, after waiting an hour or more for his attendance, the examination had commenced. It is owing to this unfortunate circumstance that a difference of opinion has existed with respect to the exact condition of the membranes, and the appearances they presented before and after his arrival—appearances which, from the peculiar nature of the case, were apparently the most important feature of the whole.

The contention of the railway company was, that deceased had, since the injury received (and for which they acknowledged their responsibility), contracted enteric fever and died of it.

The medical attendants of the deceased treated him for meningitis, and were of opinion that he died of that disease, and not of enteric fever. What light did the post-mortem throw on it? Did the appearances all point strongly to the one or undoubtedly to the other? And with respect to this part of the inquiry, and as one of the two gentlemen who made the examination, I will first mention those facts which were admitted by all to exist, and then those on which there was some difference of opinion. The conclusions which ought to be drawn from certain given conditions or groupings of facts I will not enter upon, except to indicate what were the views taken, and to give an example of the sort of questions raised, the attempted solution of which was attended with great difficulty to the legal mind. They are, indeed, purely medical questions, which, if they are cleared up, will certainly not be in a court of law. I think I am not wrong in describing the admitted facts of the post-mortem as these:—Lungs slightly congested; old pleuritic adhesions, left side; liver rather congested; heart healthy; kidneys healthy; duodenum, jejunum, and upper two-thirds of ileum healthy; in lower third of ileum intestinal catarrh; congestion and slight tumefaction of three or four of Peyer's patches; no ulceration; mucous membrane smooth and intact over its entire surface; no evidence of hæmorrhage in bowel; considerable quantity of healthy-looking fæcal matter of firm consistence. Spleen variously estimated at from 7 to 10 ounces—not weighed; not unduly soft. On the part of some—*both* who actually made the post-mortem—there are stated to be appearances of recent acute inflammation of brain membranes—viz., thickening and opacity of arachnoid; patches of effused lymph; adhesions in anterior portion of dura mater to the bone, and of both layers of arachnoid; meningeal vessels turgid; brain slightly injected. Mr. Fox, the company's medical officer, who came late, could not admit seeing adhesions or effusion, but admitted seeing several "pieces" or "filaments" between the layers of arachnoid, these not being bloodvessels. This, I submit, is rather an important admission.

So much for the intrinsic facts of the case. Then, in support of the theory of enteric fever, the railway company brought forward witnesses to show that in May last year there was defective drainage in the neighbourhood, and that there was a tank into which the drainage ran, which tank overflowed to such an extent that the overflow might reach a well in a quarry at some distance, from which quarry well the water was fetched which the family of deceased had used; that in May, 1874, there had been three or four cases of fever, probably enteric, in cottages close at hand; that the water had been tested, and that the water from the quarry well contained ·37 of a grain of ammonia per gallon, and some organic matter. This estimate was formed on

January 11th, 1875; no quantitative analysis was made in May, 1874. In opposition to this it was stated that the stratification was such that it dipped towards the tank or cesspool, and that it could only be after a heavy rain that it could overflow to such an extent as to reach the quarry well. It was thus difficult to prove *specific* contamination of the water, of which deceased used very little for drinking. None of the family, ten in number, among whom were six children, had suffered in health, the water being boiled for even washing purposes.

This, then, is the substance of the evidence, and it becomes a question to decide whether the symptoms during life, with the previous history, the post-mortem revelations, and the collateral circumstances of a sanitary nature, go to prove that the deceased died from the effects of injury or of enteric fever. It is really a case of *traumatic meningitis* versus *enteric fever*. Is there any way of deciding authoritatively which it has been? In favour of meningitis are the history of the blow and the nervous shock, headache; symptoms pointing beyond doubt to concussion and irritation of the brain up to the time of his death, with the exception of two or three days (from the 23rd December to 26th December), absence of characteristic rose rash, absence of diarrhœa, absence of ulceration of Peyer's patches after death. Did the *specific* (?) poison of enteric fever step in on those two or three days and go on to a fatal ending? If not then, when? If it did so show itself on the night of December 25th, was it a necessity that ulceration should be present? On this point Dr. Mahomed, of St. Mary's Hospital, is emphatic. If the fever lasted over sixteen days, he would certainly expect ulceration after death. In this opinion he is confirmed by Dr. Ellison and Mr. Wheelhouse. But did the fever, if it was there, last so long? Are there any means of dating accurately the commencement of the fever? In answer to this, Dr. Clifford Allbutt, with the scientific impartiality which would be expected from him, admitted that the early symptoms of enteric fever were very uncertain in duration and kind, and that it was impossible, in a great number of cases, to say when the fever commenced, as, after its first inception, there was a "silent period" of longer or shorter duration. If, then, there be an absence of the characteristics of enteric fever —of those which make it a certainty—(although, of course, there *may* be no rose rash, or diarrhœa, or ulceration in the progress of a fatal case of enteric fever), is there anything in this case which is inconsistent with traumatic meningitis? The intestinal catarrh and tumefaction of Peyer's patches would be presumptive of enteric fever, if taken apart from other circumstances, but when it is added that the deceased had administered to him strong purgatives (composed of calomel, scammony, and gamboge) by Dr. Seaborne, on account of constipation, and afterwards calomel again, with the effect of diarrhœa for two days, it is not surprising that such a condition existed. Niemeyer was referred to in corroboration of this. It is also a well-known fact, that in traumatic or inflammatory fever the same occurs, the intestinal mucous membrane presenting the "appearance of acute catarrhal inflammation, with some swelling of the lymphatic structures, if there has been diarrhœa" in the course of the disease. I am quoting from Dr. Green's Pathology and Morbid Anatomy, second edition, page 226. Further on are mentioned some interesting results of Dr. Burdon-Sanderson's observations on the subject, which show that the lesion setting up the inflammatory process need not necessarily communicate with the external air in order to give rise to a septicæmia. This is the explanation I should have given of the intestinal catarrh, though no doubt it was aggravated by the purgatives.

The intermission of a day or two, as shown by Mr. Erichsen, is a very frequent occurrence in cases of traumatic encephalitis.

It was unfortunate that the spleen was not weighed at the post-mortem, but as it was not judged by anyone to be beyond the limits it might reach in health, it does not affect the issue, though it also becomes enlarged sometimes in traumatic fever.

The medical evidence in this case extended over three whole days, and resulted in a verdict for the plaintiff, and I cannot but think that if the medical profession were in possession of all the evidence they would come to the conclusion that it was a just and true one, and that the jury have deserved the praise accorded another jury by yourself in THE LANCET of July 31st, for their discrimination—that "through juries science often speaks." It is no doubt a pity that the case was ever allowed to go to trial, and that the railway company was advised to show such uncommendable alacrity in making intricate a case which, standing on its own merits, was tolerably clear from the commencement. Would it not have been a suitable dispute for arbitration by competent judges?

I am, Sir, yours faithfully,

Doncaster, Aug. 13th, 1875. J. B. WITHINGTON.

P.S. Some blame was attached to the medical attendants of the deceased for raising an objection when the medical officer of the company wished to remove the affected portion of intestine for examination by an expert—after the brain and the membranes had been so destroyed as to be unfit for a similar purpose. Doubtless it would have been better had the objection not been made, but should not the membranes have been treated in the same way?

It would be interesting to know whether the iliac pain and tympanites Mr. Fox noticed on his visit was before or after the administration of the strong purgatives, and also whether it would have been more strictly in accordance with professional usage to have visited the patient in conjunction with his own medical attendant?

CHLOROFORM OR ETHER.

To the Editor of THE LANCET.

SIR,—I have read (in your impression of August 7th) with great pleasure the interesting and practical letters of Messrs. George Pollock, R. Brudenell Carter, and J. Warrington Haward, and am glad to avail myself of the opportunity of recording my personal experience of the relative merits of chloroform and ether as anæsthetics. My observations have not been anything like so colossal in their proportions as Mr. Carter's, but inasmuch as they have been made in connexion with a different class of cases, they may be of interest to those travelling the same professional track as myself.

I have used ether and chloroform in about an equal number of cases during the last two years. Those in which ether has most favourably commended itself to my attention are the cases in which it is often necessary to continue the anæsthetic for a considerable length of time, such, for instance, as ovariotomy, abdominal sections, operations upon and in the region of the uterus, vagina, perineum, rectum, &c. It is not a very uncommon occurrence to meet with instances in which continuous anæsthesia is necessary (from various causes) for an hour, an hour and a half, or even two hours under exceptional circumstances. In such cases ether is a most valuable and reliable anæsthetic. Once well under its influence the patient is perfectly quiet and free from the various indications of pain which are, not uncommonly, observed when chloroform is inhaled, as well as from the sudden attacks of spasmodic cough so often met with in chloroform administrations; these spasmodic troubles are most unpleasant to the operator. Reaction after ether, when long continued, is both rapid and well marked. I may here state another most important fact—viz., that I have never known vomiting to occur after ether inhalation. This is a point of vital importance to those having much to do with ovariotomy, plastic operations about the bladder, perineum, &c. I well remember a case, ten years ago, which was the occasion of the greatest possible anxiety. Vomiting of a very urgent character came on during the night following the operation. So severe and prolonged were the spasmodic contractions that the sutures gave way, and the abdominal contents were forced out of the cavity. The patient had again to be placed under chloroform while they were returned, and the wound again secured. The lady recovered ultimately, but the accident was a most unpleasant and dangerous one.

The failures in plastic operations about the bladder and perineum from the same cause (vomiting) have, in my experience, been more numerous than from all other causes put together. If this is the experience of practical men, how highly ought they to appreciate so valuable an anæsthetic as ether.

There is a certain small percentage of cases met with

from time to time to which chloroform appears to be altogether unsuited, and in which, if pressed, it would be, as far as I have had an opportunity of judging, incompatible with the life of the patient. Three such cases have come under my personal observation during the present year. The first was a lady aged twenty-six, suffering from a very obscure and painful abdominal tumour. A thorough and careful examination, under chloroform, was deemed necessary to complete the diagnosis. The second was that of a young lady aged twenty-one, who had been suffering from continuous uterine hæmorrhage for four months, which had greatly reduced her strength and impaired her general health. This lady, being unmarried, strongly objected to a vaginal examination, and chloroform was necessary to overcome the objections of herself and friends. The third was that of a married lady aged thirty-eight years, suffering from an old-standing fistula in ano. Although these three ladies differed so much in age and class, as well as in the diseases from which they severally suffered, yet the effects of chloroform upon them appeared to be identical. After chloroform had been inhaled quietly for a short time, sudden and distressing symptoms of suffocation occurred, accompanied with severe struggling and spasmodic pains about the region of the heart of a most alarming character. So great and urgent were the general symptoms, that for some minutes there were considerable doubts as to the ultimate safety of the first and third cases. In all the contemplated operations had to be abandoned for the time. The first two cases, however, took ether, preceded by the "gas," two days after the unsuccessful attempts with chloroform, with the greatest possible ease, comfort, and safety, while the third was so thoroughly frightened by her chloroform experience that nothing could induce her to try the ether; she preferred the pain of the operation to what she called "the horrors of chloroform." These, I submit, are types of the class of cases which fall victims to chloroform inhalation when pressed beyond a given point. I feel certain that two of the three patients mentioned above would have died if the chloroform had been continued.

There is another important class of cases in which ether is entitled to supremacy over chloroform—namely, those of extreme nervous irritability, whether the result of constitutional peculiarity, of disease, or of alcoholic absorption. It is a well-known fact that such persons will usually absorb an extraordinary quantity of chloroform, which in some cases appears to accumulate in the system. Suddenly, when all seems to be going on satisfactorily, the head falls to one side, the face becomes deadly pale, the lower jaw drops, the eyelids are widely separated, while the eyes are fixed and staring, giving to the patient the appearance of death, respiration being for the time arrested, and the heart's movements reduced to a feeble flutter. I have, unfortunately, had more than one opportunity of observing such cases. By active artificial respiration, &c., such patients usually recover, but they are not by any means pleasant objects for contemplation.

Since writing the above I have read Mr. Hodges' letter on the "relative *ultimate* safety of chloroform and ether" (THE LANCET, August 14th). It is suggested that the inhalation of ether is more frequently the cause of bronchial irritation than chloroform. My experience would lead me to the confirmation of this view under certain circumstances—viz., where ether is given *directly* and in *large* doses it will be followed by a certain percentage of cases of bronchial irritation, leading to troublesome bronchitis. But this is not the case, as far as I have had an opportunity of observing, where the ether is *preceded* by the nitrous oxide gas.

I must apologise for this long letter, but the importance of the question at issue must be my excuse.

I am, Sir, your obedient servant,

Chester-square, S.W., August, 1875. THOMAS CHAMBERS.

THERE has been an outbreak of foot-and-mouth disease in the neighbourhood of Thurles, Tipperary, but a considerable abatement in the malady has lately taken place. A good deal of sickness, however, prevails among children in the locality, which is supposed to arise from the deleterious effects of drinking milk from cows affected with the disease.

BIRMINGHAM.

(From our own Correspondent.)

SMALL-POX at last seems to be dying out; only four new cases being reported for the week ending August 7th, while no deaths from the disease have taken place, and only twenty-nine patients remain in the special hospital. Had equally good means of isolation existed at the outbreak of the epidemic in 1871, there would not, probably, have been 7699 reported cases and 1269 deaths. The sad but convincing lesson has taught our sanitary authorities the importance of endeavouring to stamp out the disease in future by efficient vaccination, early removal and isolation of all cases, and treatment by a special medical officer in a detached hospital. Other sanitary improvements are about to be undertaken by the Corporation under the Artisans' Dwellings Act, in the removal of some of the wretched hovels now occupied by the working classes, and the substitution of new modern buildings, with good approaches, and suitable drainage and water-supply. The deaths for the past quarter have been, according to Dr. Hill's recently issued report, at the rate of 24·30 per 1000, a slight increase of the rate over the corresponding period of last year, but rather due to the prevalence of chest and brain diseases than to those of a zymotic type.

The new fever wards opened in May have not been much used at present; only eleven cases were admitted up to the end of June, but all of these did well. As the advantages of the hospital become better known, no doubt parents will be more ready to send their children to it. Typhoid fever is still present, though it is not of a severe type.

The Birmingham already overcrowded workhouse is to be extended, and an additional resident medical officer appointed; such an officer ought to have been elected long ago, for the work has for years been greater than any one surgeon could perform thoroughly.

The Committee of the Children's Hospital have wisely determined to cease putting infectious cases in the present in-patient wards, and to build two detached infectious wards, each to contain ten beds, also a new mortuary at a greater distance than the present one from the main building.

Walsall is going to make a special effort on the 28th inst., by means of simultaneous collections in all the manufactories and workshops, to increase and further develop the cottage hospital. A new wing is wanted to accommodate serious accidents and burns, and this will cost about £1000—a comparatively small sum for such a purpose, and one which ought to be raised in so wealthy and populous a place as Walsall on any one Saturday in the year without the slightest difficulty.

Lord Lyttelton presided at the annual meeting of the Governors of the Birmingham and Midland Eye Hospital, when a very gratifying report was presented; 800 in-patients and 7626 out-patients were treated during the year, as against 658 and 7230 respectively during the preceding year, and the reserve fund had increased from £1644 to £2329. A larger and more commodious building was suggested, but no decision was come to as to removing the hospital from its present central and very convenient site.

Dr. Ballard has again been giving trouble to the sanitary board of another of the great "Black Country" towns by one of his outspoken reports. Wednesbury, however, is spoken of somewhat more favourably than Oldbury or Sedgley, in that its streets are better kept, and that its water-supply is more ample, only 11·8 per cent. of the houses being unsupplied with waterworks water. Still the death-rate is high, the sewers are miserably bad and insufficient, and "description could not impart a notion as to the terribly unwholesome condition of some of the courts and of the habitations in them."

Mr. F. G. Hamilton, who has for the past twelve months been performing the duties of house-surgeon at the Queen's Hospital, has been elected senior house-surgeon to the Royal Free Hospital, London.

There have recently been two successful cases of amputation at the hip-joint in the Children's Hospital. In one case, where the operation was performed for extensive necrosis in a boy aged twelve, there was a rapid recovery; but in the other, a girl aged six, convalescence was pro-

tracted. Antero-posterior flaps were made in each case; no tourniquet was used, the vessels being compressed by the thumb, and yet very little hæmorrhage occurred. Under the care of Mr. Elkington and Mr. Thomas, there have also been two excisions of the hip-joint, which seem likely to do well.

At the Queen's Hospital Mr. West performed ovariotomy on a woman aged thirty-eight, who had been married seventeen years, and was the mother of eleven children. The cyst was multilocular, and contained 300 ounces of yellow albuminous fluid, in which floated a great quantity of cholesterine crystals. A small incision was made, and the pedicle fixed with Wells's cramp. On the fourth day the superficial, and on the seventh day the deep, silver sutures were removed, and the patient is free from all symptoms of peritonitis, and is likely to make a good recovery.

Mr. Furneaux Jordan lately had under treatment a man aged thirty-four, the palm of whose hand was lacerated by machinery, and who, on the eighth day after the accident, showed signs of tetanus. The wound was at first poulticed and then dressed with terebene. Chloral hydrate in thirty-grain doses, and subsequently bromide of potassium, were administered with excellent effects, for the tetanic spasms ceased, and the patient was, at the expiration of a month, on the high road to recovery.

Birmingham, August, 1875.

PARIS.

(From our own Correspondent.)

PROFESSOR WURTZ, Dean of the Paris School of Medicine, having been appointed to the vacant chair of Chemistry at the Faculty of Sciences, will necessarily be obliged to send in his resignation as Dean of the Paris Faculty. On account of the difficulty, however, which is experienced in finding a successor to him, his resignation has been withheld until the reopening of the School in November next. The appointment will very likely be given to M. Sappey, Professor of Anatomy, or M. Gavarret, Professor of Natural Philosophy. All the professors of clinical medicine or surgery are exceedingly reluctant to accept the post of dean, which would take up much of their time, and materially interfere with their professional and nosocomial pursuits.

Active preparations are being made for the forthcoming session of the French Association for the Advancement of Science, which is to take place at Nantes on the 27th, 28th, and 29th inst. The meeting promises to be as successful as those previously held at Lyons and at Lille. It will include many pleasant scientific excursions into Brittany. The medical section bids fair to be highly active and well represented. Amongst the medical and scientific notabilities who have promised to be present on the occasion may be noticed the names of Dumas, the celebrated chemist; Claude Bernard; Wurtz; Professors Baillon, Broca, Verneuil; Marey, of the Collége de France; Lancereaux and Pozzi, of the Paris School of Medicine; Bertillon, Gallard, Pouchet, de Ranse, &c., of Paris; Professors Courty and Béchamp, of Montpellier; Ollier, of Lyons; Leudet, of Rouen; Azam, of Bordeaux, &c. &c. Any information required on the subject of the meeting may be obtained by writing to the secretary, 76, Rue de Rennes, Paris.

It is said that the new Minister of Public Instruction has decided on the adoption of a hygienic measure of reform as regards the dress of the schoolboys in the Lyceums or Government schools. The youths, instead of wearing the present kind of rather tight uniform frock-coat, buttoning up closely in front, would have a loose woollen jacket, allowing greater freedom of movements and fuller expansion of the chest. There is no doubt that the proposed reform would be excellent from a sanitary point of view.

The Municipal Council of Paris is now considering a report on the contemplated rebuilding of the dissecting-rooms of the Ecole Pratique and of the Clinique d'Accouchement, of the urgency of which all who have visited the precincts are fully aware.

According to an article published by the *Pungolo* of Milan, the cremation of a dead body, that of a Chevalier Keller, has been authorised and effected in that city in the presence of several distinguished advocates of incineration, amongst whom were M. Palasciano, of Naples; Professor Coletti, of Padua; Dujardin, of Genoa; and Messato, of Naples.

The heat is at present very severe, and several cases of sunstroke are daily registered. In the provinces the heat has been equally intense, and Professor Daubree, of the Paris Museum, was very nearly killed by falling in one of hollows of the Auvergne mountains under the influence of sunstroke.

In the last list of nomination of Knights of the Legion of Honour figure the names of some professional brethren for the distinguished services which they rendered during the inundations at Toulouse and Agen. Dr. Bonnemaison, head physician, and Nelson Batul, head surgeon of the Toulouse Hôtel Dieu, have been especially singled out. The name of Sœur Penin, the worthy Lady Superior of the same hospital, who, by her great energy, contributed to save so many lives, must also be mentioned with the preceding, as having been the object of the same distinction.

The distribution of prizes has just taken place at the celebrated School for the Deaf and Dumb, founded by the Abbé de l'Epée. The ceremony was presided over by M. Rihouet, Councillor of State, and as he delivered his address one of the professors of the establishment conveyed it to the pupils by means of gesture and mimicry. More than 250 scholars performed afterwards a series of military exercises, going through various manœuvres, which were commanded and executed by means of signs as quickly as if by verbal orders.

Paris, August 18th, 1875.

Medical News.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine and received certificates to practise on Aug. 12th:—

Price, Arthur, Surrey Villas, Thornton-heath, Croydon.
Stephens, Charles, Upper Parliament-street, Liverpool.

The following gentlemen passed the Primary Professional Examination on the same day:—

Bain, David Stuart Erskine, Charing-cross Hospital.
Todd, John, University College.

THE Library of the Royal Medical and Chirurgical Society was closed on Monday last, the 16th instant, and will be reopened on Thursday, September 16th.

DR. JOHN LOWE has been placed on the Commission of the Peace for King's Lynn, and Mr. John L. Williams, M.R.C.S. Eng., for Carmarthen.

ALDERMAN WM. GROOM, J.P., public vaccinator for the first district of the Wisbech Union, has been awarded the first Government grant of £18 4s. for successful and efficient vaccination.

The ship "Bremen," of Liverpool, is reported to have just put in to San Francisco with every one on board, passengers and crew, more or less ill with scurvy. Sixteen persons died on the voyage, three while within sight of port.

BEQUESTS, &c., TO MEDICAL CHARITIES.—Mr. James D. S. Douglas, of Chilston-park, Maidstone, has bequeathed £200 each to the West Kent Hospital and the Ophthalmic Hospital, Maidstone. Mr. Thomas Osborn has given £100 to the Northampton General Infirmary.

Medical Appointments.

ALCOCK, J., M.R.C.S.E., has been appointed Public Vaccinator for the Parish of Burslem, Staffordshire.

ARCHER, E. G., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the No. 5 District of the Guiltcross Union, vice Farrington, resigned.

ASHBY, H., M.B., has been appointed Demonstrator of Anatomy at the Royal Infirmary School of Medicine, Liverpool, vice Harris, resigned.

BAINES, E. C. A., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Nettlebed District of the Henley Union, vice Munro, resigned.

BARKER, A. E. J., L.R.C.S.I., has been appointed an Assistant-Surgeon to University College Hospital.

BECK, M., F.R.C.S.E., has been appointed Teacher of Operative Surgery at University College, vice Heath, resigned, on being appointed Holme Professor of Clinical Surgery.

BULLMORE, W. K., M.D., M.R.C.S.E., has been appointed Medical Officer of Health for the Falmouth Parish Urban Sanitary District: £30 per annum.

CONOLLY, ROWLEY, M.R.C.S.E., has been appointed Surgeon in Charge of the European Residents in River Brass, West Coast of Africa, vice Stanmore, whose term of service has expired.

CURWEN, C., M.R.C.S.E., has been appointed a Junior House-Surgeon to the Royal Free Hospital, vice Griffiths, resigned.

DAVIES, H. H., M.R.C.S.E., Medical Officer for the Llandyssul District of the Newcastle-in-Emlyn Union, has been appointed also Public Vaccinator; also Medical Officer of Health for the Llandyssul Sub-district of the Newcastle-in-Emlyn Rural Sanitary District, vice Jones, deceased.

DUNLOP, W. M., M.B., C.M., has been appointed Surgeon to the Woodbridge Court of the Ancient Order of Foresters, Suffolk.

FEARNLEY, W., L.R.C.S.Ed., has been appointed Medical Officer for the Parish of Lerwick and Gulberwick, Shetland, vice Macdonald, resigned.

HAMILTON, F. G., M.R.C.S.E., has been appointed Senior House-Surgeon to the Royal Free Hospital, vice Powell, resigned.

HART, Dr. W. H., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births and Deaths, for the Tullow Dispensary District of the Carlow Union, vice Burnett, deceased.

HAYMAN, F. D., M.R.C.S.E., has been appointed House-Surgeon to the Metropolitan Free Hospital, Devonshire-square, vice Gallimore, resigned.

HINCKS, T. S. H., M.B., C.M., has been appointed Medical Officer and Public Vaccinator for the Herefordshire District of the Hay Union, vice Smith, resigned.

HODSON, H. A., M.R.C.S.E., has been appointed a Junior House-Surgeon to the Royal Free Hospital, vice Hayes, resigned.

LEWIS, Mr. T., has been appointed House-Apothecary to the Bridgwater Infirmary, vice Smith, resigned.

M'ALDOWIE, A. M., M.B., C.M., has been appointed House-Surgeon to the Royal Surrey County Hospital, Guildford, vice Birch, resigned.

MARSHALL, A., M.D., L.F.P. & S. Glas., has been appointed Medical Officer to the Ayrshire Friendly Sick Society, Kilmarnock, for 1875-76.

NALLY, W. J., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Kinwarra Dispensary District of the Gort Union, Co. Galway, vice Hynes, resigned, and since deceased.

NOLAN, J. J., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer to the Tullow Fever Hospital, vice Burnett, deceased.

O'KELLY, R. A., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Resident Medical Officer at the Limerick Union Workhouse.

PARSONS, F. J., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer to the Royal Humane Society for Portland.

PETIT, J., L.K.Q.C.P.I., L.M., L.R.C.S.I., has been appointed Resident Superintendent of the Donegal Lunatic Asylum, Letterkenny, vice Merrick, appointed to the Antrim Lunatic Asylum, Belfast.

POORE, G. V., M.D., M.R.C.P.L., has been appointed an Assistant-Physician to University College Hospital.

ROE, C., L.R.C.S.I., has been appointed Superintendent and House-Surgeon to the Chalmers' Hospital, Banff, vice Donald, resigned.

SMITH, P., M.R.C.S.E., has been appointed Ophthalmic Surgeon to the Queen's Hospital, Birmingham.

TAYLOR, J. M., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer for the Burslem South-West District of the Wolstanton and Burslem Union, vice Goddard, resigned.

WALEY, T., L.R.C.P.Ed., M.R.C.S.E., has been appointed Assistant Medical Officer to the No. 2, or North District of the Ladies' Charity and Lying-in Hospital, Liverpool, vice Pughe, transferred to No. 8.

Births, Marriages, and Deaths.

BIRTHS.

CAMPBELL.—On the 13th inst., at Wellesley-terrace, Prince's-park, Liverpool, the wife of Wm. Macfie Campbell, M.D., of a daughter.

DUNCAN.—On the 12th inst., at Buckingham-palace-road, the wife of H. M. Duncan, M.D., of a son.

SNAGG.—On the 13th ult., at St. Vincent, West Indies, the wife of Richard Snagg, M.R.C.S.E., L.R.C.P.Ed., of a son.

WARD.—On the 15th inst., at Saltburn, Twickenham-common, the wife of Martindale C. Ward, M.D., of a daughter.

WEBER.—On the 13th inst., at Grosvenor-street, the wife of Hermann Weber, M.D., of a son.

MARRIAGES.

PRINGLE—SMITH.—On the 17th inst., at Nolton Chapel-of-Ease, Bridgend, Henry Turnbull Pringle, M.D., Medical Superintendent of the Glamorgan County Asylum, to Jessie Isabella, only daughter of the late Thomas George Smith, Esq., of Bridgend, Glamorganshire.

ROSS—SMITH.—On the 10th inst., at St. Peter's, Brighton, Alexander Clarke Ross, M.D., Surgeon-Major Army, to Sarah Ann Watts, daughter of the late George Smith, Esq.

DEATHS.

ANNISS.—On the 6th inst., at Albert-road, Tamar, Devonshire, Wm. James Anniss, L.F.P. & S. Glas., aged 38.

DIGAN.—On the 9th inst., at Plymouth, Patrick Digan, M.D., R.N., aged 55.

INGLIS.—On the 11th inst., at Worcester, Florence, wife of Alex. Inglis, M.D.

JEFFERISS.—On the 8th inst., at Dalkeith, Robt. R. Jefferiss, M.R.C.S.E., aged 74.

JOHNSON.—On the 14th inst., at Southwick-street, Hyde-park, Cavendish Johnson, M.R.C.S.E., Surgeon-Major Indian Army (retired list).

KER.—On the 7th inst., at Dumfries, John A. Ker, M.D.

ROWLEY.—On the 10th inst., at Milton-next-Sittingbourne, Kent, John Rowley, M.R.C.S.E., aged 63.

SNOW.—On the 16th inst., at Lincoln, James Snow, F.R.C.S., in his 93th year.

WARD.—On the 10th inst., at Penistone, Yorkshire, John Ward, M.R.C.S.E., aged 60.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

Notes, Short Comments, and Answers to Correspondents.

SILENT PAVING.

THE Whitechapel District Board of Works have gracefully responded to the application of the authorities of the London Hospital for a silent paving material to be laid down in the roadway fronting and at the eastern end of that institution, by passing a resolution that East Mount-street be paved with wood. The boon which will be thus secured to sufferers in the hospital in the shape of increased quiet will necessarily be of incalculable value, and cannot but be heartily appreciated by the patients, especially by those in whom the nervous system is more directly affected.

Enquirer.—An excellent little book on the subject (Mushrooms) has been written by Mr. Cook.

THE paper of *Mr. Robert Lawson* (Wakefield) shall be immediately published.

CASE OF DOUBLE FACIAL PARALYSIS AND DEAFNESS IN A PATIENT SUFFERING FROM SYPHILIS.

To the Editor of THE LANCET.

SIR,—The following case is, I think, of sufficient interest to warrant its publication.

R. W——, male, aged thirty-five years, tall, spare, and not over temperate in habits, just before leaving America for England, became infected with syphilis. Three weeks after inoculation a small indurated chancre made its appearance at the frænum of the prepuce, and was followed in a few days by enlargement of the inguinal glands of the right side, and in eleven days by sore-throat and a macular eruption about the face and neck. No treatment was adopted during the voyage; but upon admission to the Lock Hospital of the Liverpool Workhouse on the 17th December, 1873, he was given a solution containing five grains of iodide of potassium, with one drachm of solution of perchloride of mercury, three times a day. Symptoms of salivation manifesting themselves on the 1st January, 1874, the mixture was discontinued. At this time he complained of pains about the body, more especially of the right side of the head and right shoulder, which became intensified at night. There was slight nodulation of the right clavicle and tenderness down the spine, with startings of both legs, and a constant singing in the ears. On the 2nd of January the patient became aware of inability to close the right eye, and from this date symptoms of *right* facial paralysis developed themselves. On the 28th of the same month the left side of the face became similarly affected, and by the 31st the whole face had become a blank expressionless mask. He was unable to close either eye, and when he tried to whistle the breath came out between the lips in a horizontal line from one corner of the mouth to the other. The hearing was equally good in both ears, and sensation perfectly natural on both sides of the face. Though no more mercury had been given, symptoms of salivation still persisted. As he complained of great pain in the brows and head, with restlessness and inability to sleep, he was given bromide and iodide of potassium. By the 10th of February the symptoms of intense restlessness, sleeplessness, and pain had become relieved, and the left side of the face had resumed some of its natural appearance, the muscles of that side putting on a tremulous involuntary motion. The hearing on the right side now began to get dull, and, all symptoms of salivation having for some time passed away, the patient was given one mercurial vapour bath a day, with the result of the reappearance of salivation on the third day. On Feb. 24th there was great prostration of strength and severe pain in the right ear, in which were heard loud sounds as of rushing water. Upon examination with the ophthalmoscope, the optic discs were seen to present a fringe of vessels, forming a vascular ring, in the centre and round the outside of which the parts were pale. This vascular ring was darker in the left than in the right eye. Upon applying glycerine to the tongue, it was tasted distinctly at the right edge, but not at all at the left edge. Faradisation of the muscles produced muscular spasm on both sides. On March 10th the hearing on the left side began to be affected as the right was a month previously. One grain of mercury with chalk and ten grains of compound ipecacuanha powder were now given at night, but, the gums becoming tender, had soon to be discontinued. On April 4th, in order to test the patient's susceptibility to the action of mercury, half a grain of mercury with chalk was ordered to be given twice a day; but on the third day, the specific action of the drug manifesting itself, and erysipelas showing itself on the left side of the head and face, it was discontinued. The erysipelas extending over the whole of the head and face, a mixture of iodide of potassium, iron, and ammonia was given; and on the 9th of May, after the erysipelas had entirely passed away, thirty-grain doses of iodide of potassium alone were administered, and increased till as much as sixty grains three times a day were taken. Under this treatment the patient's health steadily improved, and he became quite stout and strong; the deafness of the right ear passed away, and the left side of the face began to assume a more mobile and natural appearance, the right side, however, continuing paralysed. At the end of July the left side of the face presented its natural appearance. There was, however, complete deafness on that side. The right side of the face still showed evidences of paralysis, though slight. There was a scaly papular eruption on the left arm, and the right inguinal and left cervical glands were slightly indurated.

As the patient ate well, slept well, and felt well, he considered himself quite well, and, against advice, persisted in discontinuing treatment and resuming his seafaring career.

I remain, Sir, yours &c.,

J. H. BARNES,
Late Surgeon to the Liverpool Workhouse Infirmary.

August, 1875.

Honorary Secretary.—The bill is a most discreditable production. If anything could add to the discreditableness, it would be that the writer should be in good practice, and not able to fall back on the common excuse of impecuniosity. The Medical Society in question should express and record in plain terms its opinion.

Mrs. Duckett.—It does not constitute a disqualification.

HUMAN STYES.

A WEEK or two ago we referred to a proposal which had been made, under the new Artisans' Dwellings Act, to improve a foul spot lying to the north of Holborn, and bounded on the west by Gray's-inn-lane. Another area, in Whitechapel, of even worse character, is about to receive the deserved attention of the Metropolitan Board of Works. In this area there wallow 2369 people, each person having, according to Mr. Liddle's estimate, only on an average 8·2 square yards, and the rate of mortality in the locality was, in 1873, 38·4 per 1000. The description by Mr. Liddle of some of the courts and alleys in this region is simply appalling, and serves to show the urgency of the need of the legislation which Mr. Cross's Act has to some extent supplied.

Dr. Muscroft (Pontefract) is thanked for his letter.

THE DEATH UNDER CHLOROFORM AT QUARRY BANK.

To the Editor of THE LANCET.

SIR,—I must apologise for again troubling you with a letter upon the above subject; but Mr. Ashmead's letter in last Saturday's LANCET, in which he tries to controvert my statements, compels me once more to deal with a few facts relating to the case.

1. Let me say that since I last wrote I have obtained from the coroner an official copy of the evidence given at the inquest, and shall therefore, in any allusion I may make to Mr. Ashmead's evidence, quote word for word from that document.

2. In Mr. Ashmead's letter to you he says, "the condition of the heart's cavities indicated syncope, yet the bloody froth issuing from the mouth and nostrils, and the intense violet tint of the face, as well as the condition of the lungs, pointed towards death from suffocation."

There can be no doubt whatever that the appearance of the face was entirely post-mortem, the result of decomposition—not surprising when the state of the atmosphere and the time of year are taken into consideration, together with the fact that the subject had been dead three days. Mr. Ashmead himself, in his evidence, confirms this fact; for he says "the skin had commenced peeling off the arms in consequence of decomposition."

3. The point in his letter, however, that I wish most particularly to draw attention to is the following: "The statement that the abdomen contained three pints of pus is perfectly Munchausen in character. In the hurry of cross-examination I overstated the amount, which was, in reality, not more than three ounces diffused about." But this is in direct opposition to Mr. Ashmead's own statement as given in evidence to the coroner, in which he says: On examining the abdomen, a *large quantity* of matter—pus—was found there." Afterwards, in cross-examination, he stated: "There was more than a pint of matter collected in the abdomen."

With regard to my statement of the case in THE LANCET of August 7th, I simply said that Mr. Ashmead did not in my presence make any examination as to the amount of pus in the cavity, and that I should certainly think, from appearances, that there must have been at least three pints of pus.

Mr. Ashmead also stated before the coroner that he detected chloroform in the tissues. I am not aware of any known process by which it could be detected three days after death.

In urging upon the police in the first instance the necessity of an inquest, I did so believing it to be a duty incumbent upon me to have elucidated a matter of so much importance to the public and of such interest to the profession.

With these remarks I leave you and the readers of THE LANCET to judge who deserves the name of "Munchausen."

I am, Sir, yours truly,

August, 1875. HUGH R. KER.

P.S.—One of the leading London pathologists taught me, when a student, never to rely on any test for consolidated lung, save that of throwing portions of it into water. This test was not applied at the post-mortem.

DANGER OF "WAKES."

AT Haslingden an outbreak of small-pox is reported by the medical officer of Health, Dr. Harrison, to have originated as follows:—Three weeks ago an Irish haymaker took the disease and died. The rural sanitary authority put out placards warning people to keep away from the infected dwelling, but the Irish persisted in visiting it. When the man died the medical officer appointed a watchman, who stayed until midnight, and then left. After this the Irish entered, and held a wake over the body. Soon after the wakers were stricken, and two died, whose remains it was found necessary to bury within twelve hours. There are now four persons suffering from small-pox in the village, and whose infection is traced to the disastrous and stupid custom practised by the Irish.

A. M.—The law has not prescribed any rules on the subject.

UNQUALIFIED MEDICAL PRACTITIONERS AND THE REGISTRATION OF DEATHS.

To the Editor of THE LANCET.

SIR,—In corroboration of what your correspondent states in your last, I may add that, as a result partly of registrars not being supplied with a copy of the Medical Register, one of these gentlemen in my neighbourhood stated it was not his business to test the validity of any certificate transmitted to him; that if a certificate, signed, and purporting to be from a registered practitioner, came to him, he did not think of questioning it. He has, however, since, on receiving a certificate from an unqualified person on blank paper (not official), gone to the friends and asked them if they were satisfied that their child or relative died of the complaint so stated!

Another registrar in an adjoining parish, on getting a certificate signed by a medical man who did not see the case from first to last, when this was reported to him, did make inquiries, and finding this to be irregular, to say the least, reported the same to the superintendent registrar of the district, who told him it was no business of his, and if some other medical man in the neighbourhood chose to take it up he could do so.

These are two instances out of many under my observation, and which only go to prove what a sham this registration of deaths is as at present carried out.

Yours &c.,

August 17th, 1875. JUSTITIA.

OVARIAN COMPRESSION IN FITS OF HYSTERIA.

DR. CHARCOT, of La Salpêtrière, believes that in the majority of hysterical fits there exists an *aura* which takes its starting-point in one or other of the ovaries, and sometimes in both. Therefore, in order to arrest immediately a fit of hysteria, it suffices to exert strong pressure over the ovary where the aura is seated. In his hospital wards he has often shown the effectiveness of the method, alternately checking an hysterical fit or allowing it to go on by applying or removing compression. In order to exert protracted pressure he makes use of a sort of tourniquet. In manual compression, the fingers are pushed down behind the pubis, where the artery can be felt distinctly beating.

Chiron.—The letter is too long for insertion. We shall consider the question.

ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—In a leading article of a contemporary of the 24th ult., commenting on some Army Medical Regulations recently issued, there are so many erroneous statements that one feels constrained to notice them, as they may give rise to much misconception outside the department. A contrast is drawn between these Regulations and the book of Medical Regulations issued in 1859, and the completeness of the latter as compared with the former is dilated on. All the criticism, however, is uselessly expended, as it is based on the utterly wrong assumption that the rules just issued constitute the new code in its entirety. It is well known that they form only a very small portion of it, dealing merely with four subjects.

The part of the paragraph referring to attendance on parades, which has been taken as an illustration of slovenly, unintelligible composition, and contradictory statements, is, I find, an extract from the Queen's Regulations, which, no doubt, had to be quoted as the authority on the matter; and to instance, if indeed necessary, a parallel case, of the significance in which the word "attendance" is employed, everyone in the service is aware that a medical officer is said to attend rifle firing, although he may not be actually on the ground, but only within call.

The regulations with regard to the distribution of the sick, which is adduced as another example of contradiction, were practically in force in every consolidated regimental hospital—that is, the sick were grouped regimentally, and treated by the regimental medical officers; but certain wards were appropriated for sick prisoners, cases of infectious disease, ophthalmic cases, lunatics, &c., and in these wards patients were treated irrespective of corps distinction. The duty of thus segregating certain cases, and determining the wards in which they are to be placed, now devolves on the medical officer in charge, and therefore he is given the power detailed in paragraph 3, page 9. One fails to perceive wherein the inconsistency exists.

It is asked, what about those medical officers who live at a distance from the station hospital when the sick are to be treated by the medical officer attached to corps? It is well known that a great outcry was raised when medical officers attached to corps were debarred from hospital practice. Now that they are to attend to the sick of their corps "as far as practicable" in the station hospital, an objection is at once raised on the score of a contingency that may occasionally arise, and which it is the duty of the administrative medical officer of the district to provide for.

The remark made with regard to those living within the prescribed radius is simply a slur on medical officers who ought to be acquainted with the army circular, in which the distance is laid down. No doubt the extent of the prescribed radius will be mentioned in the new code in its proper place.

With regard to paragraph 7, page 6, in which it is stated that non-commissioned officers and men are not to be treated out of hospital, it is merely a quibble to assert that it is contradictory to the preceding, which, on the other hand, plainly shows that it only can refer to patients requiring hospital treatment.

The query is put, How can a medical officer attached to a regiment keep the regimental medical records in barracks when he is to treat the sick of the corps in hospital? The answer is, that there are regimental medical returns and station hospital returns; the former are kept in the barracks, because they are not wanted at the station hospital; and the latter at the hospital, as they are not required in barracks.

In fact, not one of the charges brought against these Regulations has been in any way substantiated; and to show the unfair, one-sided kind of criticism in the article referred to, out of four subjects, two, that would be, I dare say, susceptible of some modification before the new code is issued in its complete form, have been seized upon for unfavourable comment.

In conclusion, I have only to add that where so many blunders have been committed by the writer, one begins to doubt his capacity to judge of the capability of those who have the responsibility of drawing up the new code of Army Medical Regulations. Your obedient servant,

August, 1875. FAIR PLAY.

Lex.—A registered practitioner cannot legally depute to an unqualified assistant the duty of signing certificates required by law. If our correspondent knows of an instance in which paupers are attended entirely by an unqualified assistant, he should report the facts to the Board of Guardians or the Local Government Board. Such a system is both discreditable and illegal. Friendly Societies have the remedy in their own hands, and may do as they please.

Sigma.—Information as to baths will be found in special works. Our correspondent will judge better than we can of the fee for the surgical service referred to. The other service mentioned was not a professional one.

DISCHARGE OF A CALCULUS FROM THE UMBILICUS.

To the Editor of THE LANCET.

SIR,—A case somewhat analogous to the second of those related by Mr. Edward C. Anderson in this day's LANCET is given in the "Biennial Retrospect of Medicine, Surgery, &c., for 1871-72," published by the New Sydenham Society, page 279. It is the case of the discharge of a cholestearine calculus, weighing 390 grains, from the umbilicus of a young lady. It was supposed that the calculus had been three years making its way to the surface.

I am, Sir, yours faithfully,

Penzance, Aug. 14th, 1875. A. B. B.

COOKERY.

CONSIDERING the important part that the skilful preparation of food plays in dietetics, it is to be regretted that the labours of the National Training School of Cookery have not been attended with more success than the published results would seem to imply. Out of 766 pupils who have passed through the school, only three have succeeded in obtaining diplomas as teachers. These numbers are so disproportionate as to suggest some defect in the method of instruction, were it not for the strong testimony that has been borne to the excellence of the lectures given at South Kensington.

Mr. Lawson Tait. — Centralblatt für die Medicinische Wissenschaften, No. 28, 1875.

THE INDIAN MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—As a regular reader of THE LANCET, I have an opportunity of seeing many of the letters and communications written on the subject of the medical services, Naval, British, and Indian, and it is with regret that I observe there is an apparent misunderstanding as to the value of the Indian service, as compared with the others, as a career for the young surgeon. It is a matter for regret, inasmuch as it places us in a false light, and misleads others.

I have no private ends to serve, I may remark, in speaking depreciatingly of the service to which I have the fortune to belong. What I am about to say is mainly intended for the benefit of those students or others who may at the present moment be contemplating entering one of the public services, and who may not have as yet decided which they consider worthy of their choice. I would advise those who have no special reason for selecting the Indian service, to pause ere they do so in preference to entering one of the others, with the new Naval Medical Warrant before their eyes, and the prospect, it is to be hoped, of an early adjustment of the grievances of the officers of the army medical department.

I shall say nothing of the advantages or otherwise of the sister services, inasmuch as students can easily inform themselves thereof at home, but shall confine my remarks to the Indian service, in regard to which such mistaken views frequently prevail amongst students, and teachers, too, for the matter of that, to whom the former so frequently look for advice on the point.

I have an honest wish to represent the Indian medical service in its true colours, even though my doing so may destroy the illusions of some of Dr. Fayrer's audience on the occasion of his recent address at Netley. About this same address the *Indian Medical Gazette* of June 1st remarks: "The address dwells exclusively on the bright side of an Indian career, and the prizes of the service are prominently exhibited. A curtain is drawn on the dark side—unemployed pay, officiating appointments, frequent and expensive moves, pot a little favouritism and jobbing, confused administration, depreciation of the value of salaries, increasing expenses of living, bad health, separation from wife and children, domestic troubles and trials." And I would add from myself, though last not least, miserably inadequate pensions on retirement. I ask, in the name of fairness and common sense, why did the address dwell exclusively on the bright side of an Indian career? Is it fair, is it just, considering the weight that would naturally attach to Dr. Fayrer's utterances on the subject, and the degree to which they may influence, if not determine, the career of many who are still *in statu pupillari*, either directly or indirectly through their teachers? If a man were to dwell exclusively on the advantages of service on the West Coast of Africa, and the rapidity of promotion accruing therefrom, I wonder how many of those who accepted his dictum, and acted upon it, would afterwards bless him? Dr. Fayrer's good fortune and success, though, doubtless, no more than he deserves, may at the time have helped him to forget that his career should not by any means be taken as illustrative of that of the average Indian military or civil surgeon.

To return to the points noted in the *Indian Medical Gazette*. The "unemployed pay" rule alluded to is a source of great disappointment and heart-burnings to the young surgeon. From the wording of the rules supplied to him from the India Office, he is led to expect, as I was myself eight years ago, that he is entitled to the employed rate of pay on passing the prescribed examination in one of the languages of the country, and performing duty. But no such thing. It may be years before he is permanently posted to a regiment or civil station, until when he draws the unemployed rate only, plus some acting allowance. The latter is not unfrequently swallowed up in travelling expenses, if the acting appointment be of short duration, or the journey a long or expensive one, as the Indian Government will not allow travelling expenses if the increase in emoluments be never so small. This is no imaginary picture, as a reference to the Army List will show that there are surgeons on the Madras establishment of the season of '69 who have up to the present never been permanently posted to either a military or civil appointment. Officiating appointments involve diminished allowances, uncertainty of tenure, and frequent moves, every one of which latter is more or less expensive.

I shall allow myself to do no more than mention the fact that favouritism, jobbing, and confused administration exist in the Southern Presidency. The depreciation in the value of salaries, however, is a matter of common interest to all; the depreciation in the value of money and ruinous rate of exchange on home, with unfortunately the concurrent increased and increasing expenses of living, are unpleasant facts, and most unquestionably seriously diminish the value of Indian appointments.

The probability of bad or deteriorated health from lengthened residence in the tropics, with the certainty at some time or other of separation from wife and children, are, and have always been, drawbacks to an Indian career; but ought, none the less, be taken into account in estimating the relative value of the different services while there is still a choice.

The pension rules, framed for other days and under different circumstances, are miserably inadequate to enable a man, after a service of twenty-five or thirty years in India, to live in comfort at home, and help to provide for a family, if haply he have such; and the depreciation of the value of salaries and increased expenses of living above alluded to render it simply out of the question for the majority to save sufficient to supplement these pensions to any extent.

I dare say it is known to the Editor of THE LANCET, and it ought to be to everyone who contemplates an Indian career, that the medical funds, which formerly formed one of the principal attractions of the service, are no longer available, Government, with cruel parsimony, having debarred all those who entered since 1860 from joining them. These funds, which often enabled a worked-out man to retire by supplementing his pension, have now, as their most miserable representative, the Indian Family Pension Fund of 1873, which, though demanding high donations and subscriptions, gives a wretched pittance to widows and orphans, and lacks altogether the annuity branch, which provided an annuity after a certain number of years' service, as above mentioned. This new Fund is, in the opinion of many, no better, if so good as an insurance on one's life, high though the Indian rates for the latter are.

These, Sir, are some facts connected with this much belauded and eulogised service, which students are encouraged so to enter.

There are other matters which I should much wish to notice, but that I fear I have already trespassed too much on your space, but which may form the subject of a future communication, if you will permit me.

I trust you will give insertion to this in the columns of THE LANCET, and that it may be the means of provoking expressions of opinion from other members of the service, and so ventilating our grievances.

I remain, Sir, your obedient servant,

Madras Presidency, June 19th, 1875. LOCAL.

VALUE OF PARTNERSHIP.

A Constant Subscriber.—Everything depends on circumstances. A good partnership—by which we mean association with a good partner in a sound practice—should be worth two years' purchase; but a bad partnership would be cheaply avoided at the cost of one year's profits.

A. M. D.—We have not received copies of the examination papers referred to by our correspondent. They are published in the departmental blue-book; but it is not our practice to print them in our columns.

DROPSY OF THE AMNION, REQUIRING THE REMOVAL OF THE FLUID AND CONSEQUENT INDUCTION OF PREMATURE LABOUR.

To the Editor of THE LANCET.

SIR,—The following case will, I think, be found sufficiently interesting and rare to warrant its publication.

Mrs. G——, a tall, pale woman, of active habits, and the mother of eight children, two of whom were twins, engaged me to attend her some three months previous to the time expected. She at the same time complained of loss of appetite, weariness, &c.; but her reason for sending for me was that she scarcely passed any urine; it often did not amount to more than three or four ounces in the twenty-four hours; it was intensely acid, and loaded with lithates; no albumen. For some weeks I tried various diuretics, tonics, &c., but without benefit. She steadily got worse, so that about four weeks after I first saw her she had to take to her bed. She now had constant cough, sleeplessness, loss of appetite, and great emaciation, and seemed to be in a very critical condition. On placing my hand on the abdomen, I found it enormously enlarged, and uniformly fluctuating. The girth at umbilicus was forty-two inches. On vaginal examination, the uterus felt like a tightly distended bag of fluid; the os high up, and pointing backwards; cervix entirely obliterated; ballottement very well marked. I requested my friend Mr. Cheesman to see the case with me, and we came to the conclusion that it was one of dropsy of the amnion, and that the membrane should be perforated without delay; but we thought it our duty to urge on the friends the propriety of calling in Mr. Martin Coates, of Salisbury, who came and agreed to what we proposed doing.

The following day I perforated the membrane with a porcupine quill, intending to let the water drain off as slowly as possible. In less than an hour two gallons had been caught, and at least one more had soaked through the bed. Pains came on in about six hours afterwards, and in two hours more she was delivered of a male infant, who feebly gasped once or twice. The placenta came away naturally, and was very small. In all the similar cases I can find recorded it seems to have been extremely large.

I forgot to say that no fœtal heart could be heard, and that on one occasion I distinctly felt, through the abdominal wall, the movements of the child.

The patient made a good recovery, and is now in excellent health.

I remain, Sir, yours truly,

Gillingham, Dorset, August, 1875. T. WOODS, L.R.C.P. Lond.

ANCIENT AND MODERN MEDICINE.

To the Editor of THE LANCET.

SIR,—In discussing Dr. Warburton Begbie's Address in Medicine, you state that the question he quotes from Sir Wm. Hamilton, "Has the practice of Medicine made a single step since Hippocrates?" was put by the illustrious professor in 1832, and you ask whether, "allowing that Sir William's question was not unreasonable in 1832," there was any justification for Dr. Begbie reviving it in 1875.

Allow me to draw your attention to the fact, which you can easily verify for yourself in one of our public libraries, that the question referred to was not put in 1832, when the original article appeared in the *Edinburgh Review*, but that it appeared for the first time in 1852 in the collection of the Professor's essays, published under the title of "Discussions on Philosophy and Literature," and that it was then contained in a note which was enclosed in square brackets, to signify that it was new matter. This note having naturally given offence to some of the Professor's medical colleagues in the University, another was added in 1853 in the second edition, in which the author strove to justify his position by stating that he had only quoted from high medical authorities, and making further quotations from them to the same effect. It is from these two notes published in 1852 and 1853 respectively that Dr. Begbie has quoted, though probably many readers of the Address would have thought, with you, that he referred to the original article. It seems to me, however, that the fact of Sir Wm. Hamilton's question having first appeared twenty years later than you supposed, fully justifies Dr. Begbie's selection of it as his text, and adds point to your observations as to its ungraciousness.

I am, Sir, your obedient servant,

Fitzroy-square, Aug. 14th, 1875. H. NELSON HARDY.

INJURIOUS EFFECTS OF VEGETABLE DECOMPOSITION.

To the Editor of THE LANCET.

SIR,—I should feel most grateful to any of your numerous readers who could indicate to me where I am to find information on the injurious effects of vegetable decomposition in the production of fevers and disease generally in any part of the world. Your obedient servant,

Great Marlborough-street, Aug. 6th, 1875. MEDICUS.

OVERCROWDING IN IRELAND.

A SANITARY officer in the county of Clare reports that he lately found ten human beings in a tottering mud edifice 13 ft. by 7 ft. Seven slept in one bed, and a younger member of the family in a hen-coop. The roof was decayed and riddled with holes, and a dunghill of putrefied matter outside emitted a terrible stench. One child was quite naked. The family are receiving out-door relief. Although the foregoing account depicts a most extreme case of overcrowding, we have no doubt that metropolitan medical officers of health not unfrequently come across parallel cases in some of the courts and alleys which we hope to see improved away in a few months.

EXPENSES OF WITNESSES IN VACCINATION PROSECUTIONS.

THE *Local Government Chronicle* states as follows:—

"In a case which recently came before the justices at Taunton, a question of some importance was raised with reference to the expenses of prosecutions under the Vaccination Acts. Mr. Goodman was summoned for not having his child vaccinated; and Mr. Trenchard, the clerk to the guardians, conducted the case for the vaccination officer. After submitting evidence as to the failure to comply with the requirements of the statute, Mr. Trenchard said that it was the second time that they had had to bring Mr. Goodman before the justices. On the first occasion they had to issue a process to obtain the fine, and he asked for the full penalty to be imposed. As he considered it hard for the ratepayers to have to pay the costs of himself and the vaccination officer for attending there, he must also ask the Bench to make an order for the professional expenses in the case.—The defendant said that Mr. Trenchard and Mr. Cornish, the vaccination officer, were paid officers of the union, and attended in the discharge of their duties.—Mr. Trenchard replied that he appeared there, not as clerk to the guardians, but as the professional adviser of Mr. Cornish, who would receive what the guardians thought fit for his attendance. Whatever the guardians gave him would come out of the ratepayers' pockets. Their attendance did not come within their ordinary duties; he was simply there as solicitor to the vaccination officer.—Captain Doveton said the Bench had decided to convict in the case, and to inflict the full penalty—20s., 6s. costs, and 10s. 6d. each for the attendance of Mr. Trenchard and the vaccination officer—in all, £2 7s."

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. H. Tuke, London; Dr. Bell Taylor, Nottingham; Rev. W. H. Rothery, Cheltenham; Mr. Higgins, London; Dr. Lloyd Owen, Birmingham; Mr. Brown Sim, Nottingham; Mr. T. Woods, Gillingham; Mr. R. Lawson, Wakefield; Mr. Hardy, London; Mr. Meadows, Hastings; Mr. Withington, Doncaster; Dr. Kitchener, Derby; Dr. R. Farquharson; Mr. Archer, Diss; Mr. Robinson, London; Mr. J. H. Barnes, London; Mr. Webster, Lynn; Dr. Clapham, London; Mr. R. H. Hunter, London; Mr. Plumbe, London; Mr. Richardson, Liverpool; Mr. Ingpen, London; Mr. Merriman, London; Mr. Richardson, Bryngwy; Dr. Ryott, Newbury; Mr. Owens, East Farleigh; Dr. Wyllie, Edinburgh; Mr. Swinson, Leamington; Mr. Jeaffreson, Framlingham; Mr. Arminson, Preston; Mr. Ker, Birmingham; Dr. Rayner, Southport; Dr. Neale, London; Mr. Hogg, London; Messrs. Barclay, Falmouth; Dr. Madden, Dublin; Dr. Hunter, Pontypridd; Dr. Chatterton, Hayfield; Mr. Murray, London; Mr. Lyle, Dalston; Dr. Dunlop, Woodbridge; Dr. Muscroft, Pontefract; Mr. Wyer, Earlswood; Dr. Aitken, Inverness; Dr. Humble, Corfe Castle; Mr. M'Rae, Penicuick; Mr. Hatchard, St. Leonard's; Messrs. Wright and Co., Birmingham; Mr. Williams, Bangor; Mr. Munro, Cupar; Dr. Pritchard, Aspatria; Mr. Eddison, Leeds; Dr. Burder, Bristol; Dr. Speedy, Dublin; Messrs. Salmon and Ody, London; Mr. Bellamy, Rotherhithe; Dr. Brett, Watford; Mr. Edwards, Furneaux Pelham; Dr. Kennedy, Kirkdale; Mr. T. Chambers, London; Dr. Dale, Patterdale; Dr. Acland, Oxford; Mrs. Duckett, Green Hill; Mr. Barber, Sheffield; Dr. Mitchinson, Lincoln; Messrs. Burgess and Co., London; Mr. Pelton, Tunbridge Wells; Mr. Brierley, Macclesfield; Mr. Whitton, Blackburn; A. M. D.; A. B. B.; R. R.; Justitia; Sigma; Ipswich; A. R. M.; Phos; Potestas; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from — Mr. Morris, Birmingham; Mr. Jackson, Huddersfield; Mr. Kerr, London; Mr. Clare, Seaford; Mr. Thomas, Swansea; Mrs. Butler, London; Mr. Cresswell, Norwood; Dr. Inglis, Worcester; Mr. Smith, Bridgend; Mr. Tucker, Owston Ferry; Mr. Ferguson, Ardwick; Mr. Megleston, Plymouth; Mr. Forsyth, Torphins; Mr. Miller, Brixton; Mr. Moore, Brackley; Dr. Ball, Blaenavon; Mr. Fox, London; Mr. Allen, Manchester; Mr. Nicholson, Leeds; Dr. Buckell, London; Dr. Booth, Oswaldtwistle; Mr. Weir, Birmingham; Mr. Southam, Wolverhampton; Mr. Moxon, Northampton; Mr. Lowes, Sedgefield; Mr. Macfarlane, Milford Haven; Mr. Fielding, Alfreton; Mr. Morris, Iver; Messrs. Southall and Co., Birmingham; Mr. Grote, Silverdale; Mr. Nowell, Halifax; Dr. Waller, Peterborough; Mr. Manby, Sierre Leone; Messrs. Denning and Co., Bristol; Mr. Izod; Mr. Silverlock, London; Dr. Campbell, Liverpool; Mr. Coxe, Whithill; Mr. Lambert, Edinburgh; Rev. W. B. Maxfield; Mr. Douglas, Wymondham; Mr. Crook, Keynsham; Dr. Waters, Liverpool; Mr. Lawrence, Towcester; Mr. Coles, Oldham; Mr. Capel, London; Mr. Vevers, Hereford; Mr. Hensley, Broadway; Mr. Thomas, Brockley; Dr. Ward, Twickenham; Mr. Bosworth, Sutton; Mr. Stuckey, London; Mr. Morris, Iver; Mr. Phillips, St. Albans; Mr. Robinson, Maidstone; Mr. Elliot, Leinster; Mr. Long, Parkgate; Mr. Roberts, Coningsby; L. S. A., Hythe; A. B., Chorley; F. E.; A. B., London; W. T. W., Edinburgh; Medicus, Bristol; E. M. D., Liverpool; J. A. P., Merton.

Liverpool Post, Western Daily News, Yorkshire Post, Manchester Guardian, Huddersfield Chronicle, East London Observer, South Wales Daily News, Cork Constitution, Surrey Advertiser, Leeds Mercury, Newcastle Critic, Glasgow Herald, Welshman, Record, Irish Times, Dublin Express, Lynn Advertiser, and *Keighley News* have been received.

METEOROLOGICAL READINGS

(Taken by Steward's Instruments).

THE LANCET OFFICE, AUG. 19TH, 1875.

Date	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia in Vacuo	Max. Temp. Shade	Min. Temp.	Rainfall.	Remarks at 8 A.M.
Aug. 13	29·72	W.	62	64	105	76	61	0·04	Raining
„ 14	30·06	W.	61	63	109	79	61	0·00	Overcast
„ 15	30·22	W.	65	72	115	79	60	...	Cloudy
„ 16	30·10	S.	66	72	119	87	62	...	Bright
„ 17	29·99	W.	62	70	116	85	65	...	Bright
„ 18	30·11	W.	61	67	113	77	63	...	Cloudy
„ 19	30·19	N.W.	59	62	...	...	58	...	Overcast

Medical Diary for the ensuing Week.

Monday, Aug. 23.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

Tuesday, Aug. 24.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.

Wednesday, Aug. 25.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1½ P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.

Thursday, Aug. 26.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

Friday, Aug. 27.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
QUEKETT MICROSCOPICAL CLUB.—8 P.M. — Mr. W. Cole: "Remarks on a Parasite of the Humble Bee (*Sphærularia bombi*)."

Saturday, Aug. 28.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

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